ACCELERATE **CHICAGO**

Craft software with confidence in 2026

Tag.
Publish.
Hope.



Aubrey Chipman & Roberto Perez Alcolea
Developer Productivity Team
Netflix



Image generated with https://ideogram.ai/

EVERYONE IS TALKING ABOUT AI WRITING CODE.

BUT CAN YOUR INFRASTRUCTURE HANDLE IT?

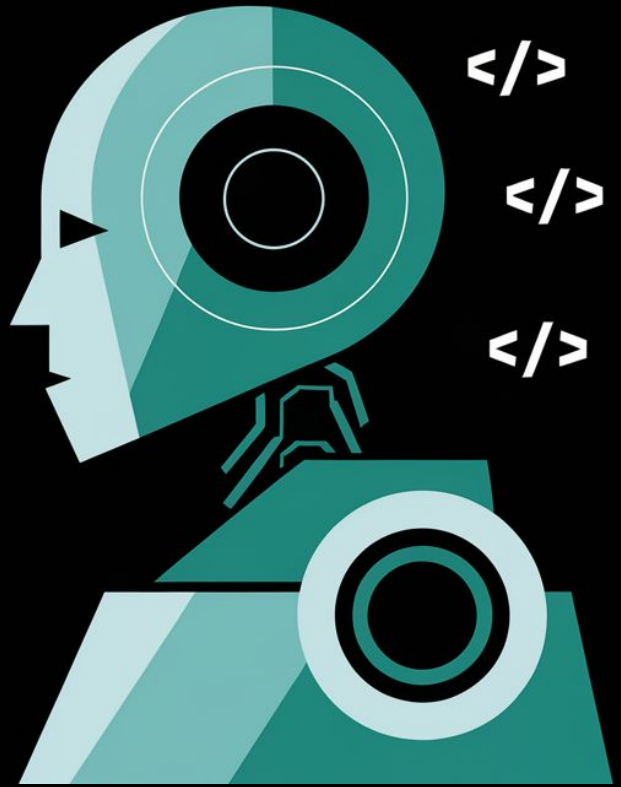
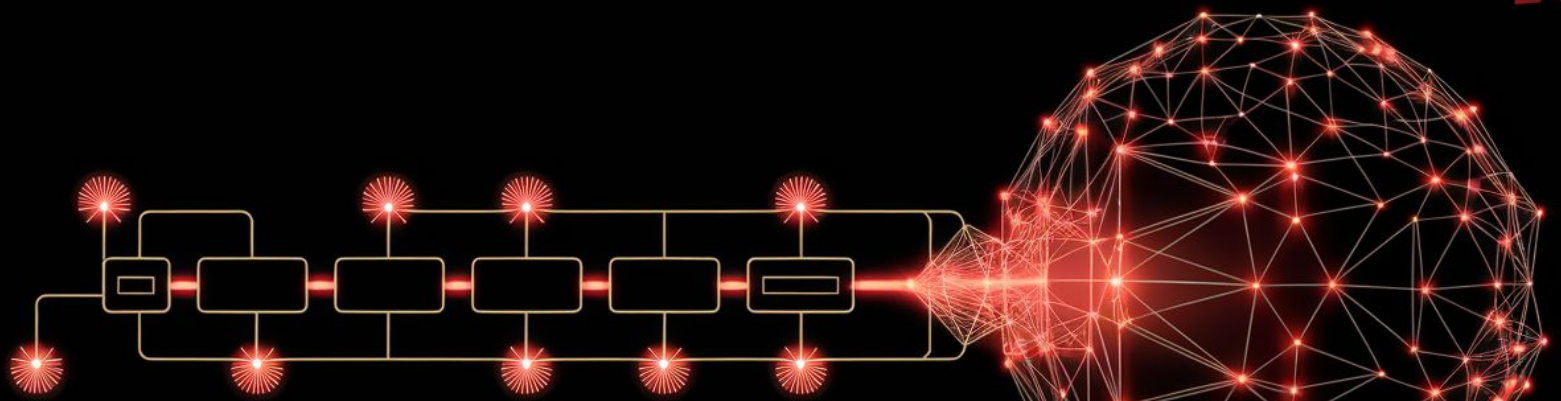
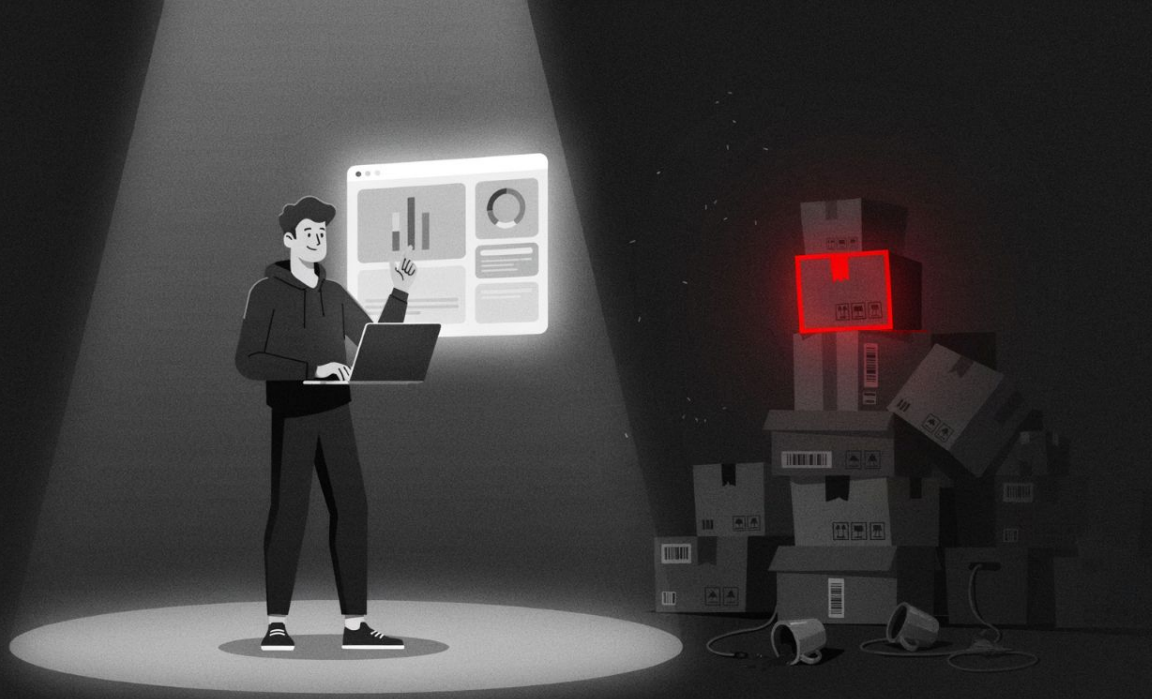


Image generated with https://ideogram.ai/



AI IS INTEGRATED INTO HOW WE THINK, WORK, AND BUILD.

Image generated with https://ideogram.ai/



WE BUILD APPS.
WE INTEGRATE LIBRARIES.
WE FORGET THE LATTER.

Image generated with https://ideogram.ai/



Image generated with https://ideogram.ai/



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NETFLIX HAS A

NETFLIX PAVED PATH



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Image generated with https://ideogram.ai/

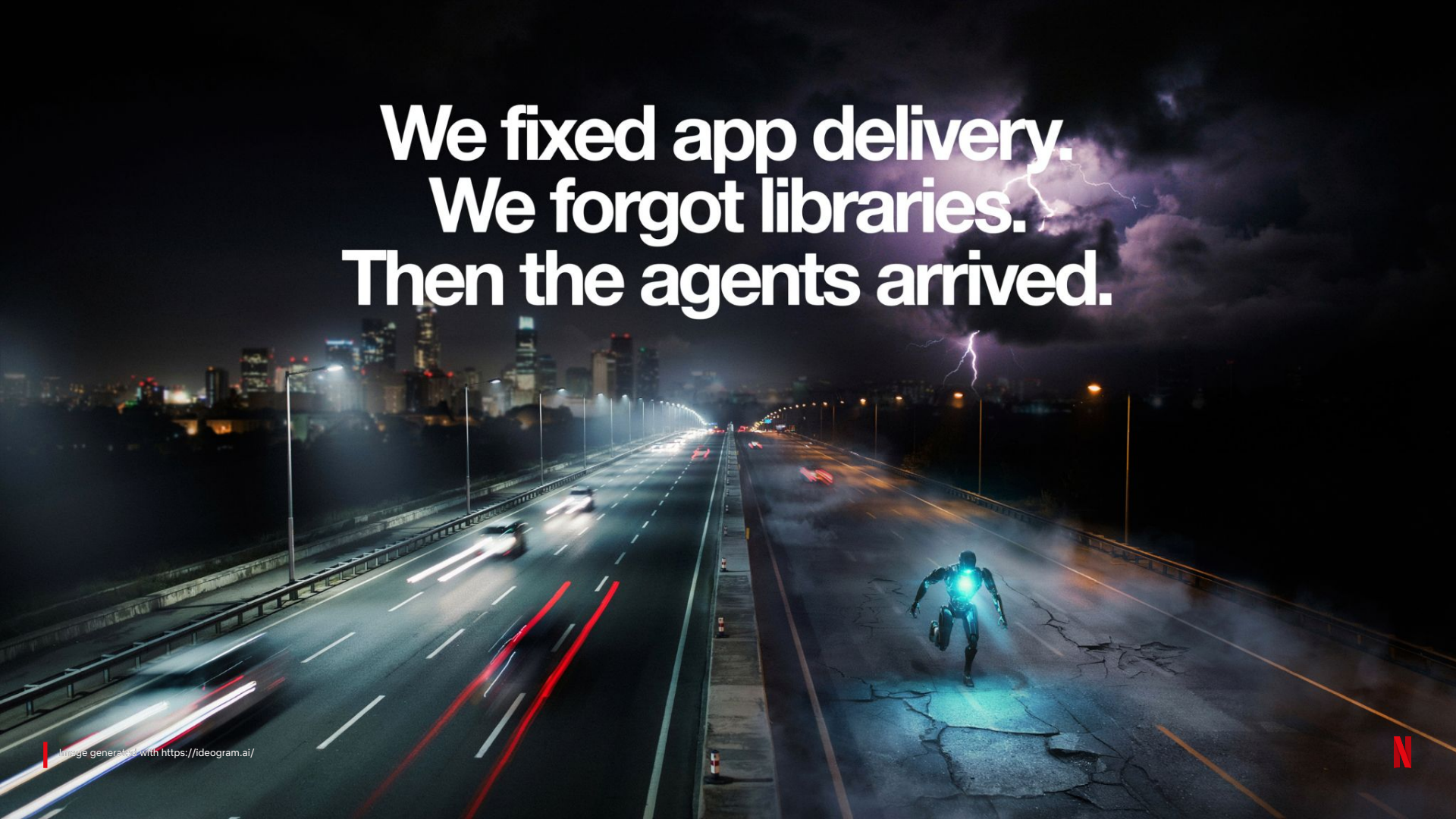


Image generated with https://ideogram.ai/

Agenda for today



Image generated with https://ideogram.ai/

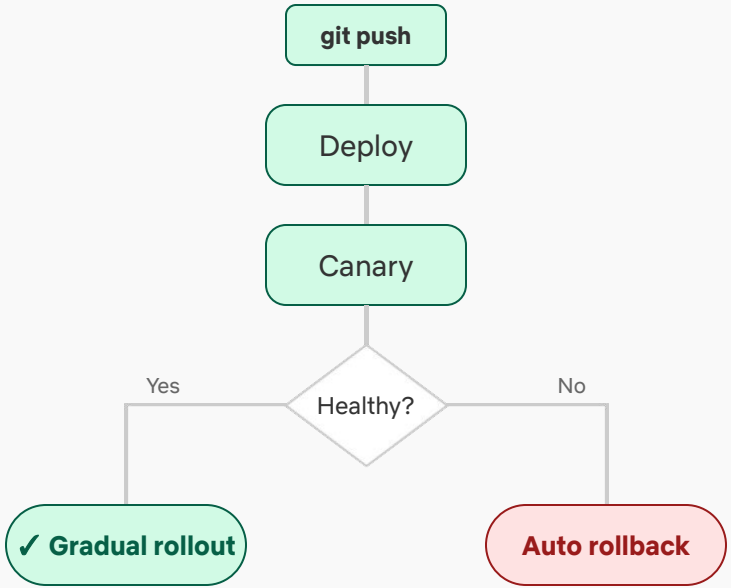


SAME MISTAKE, TWICE AS FAST

Image generated with https://ideogram.ai/

Two different worlds

APP DELIVERY



LIBRARY RELEASE

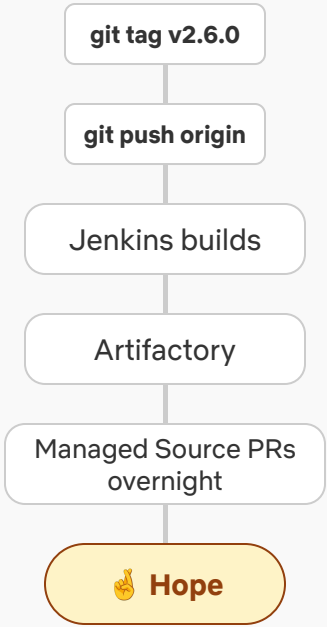
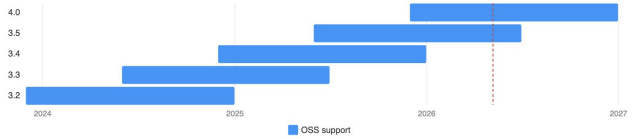




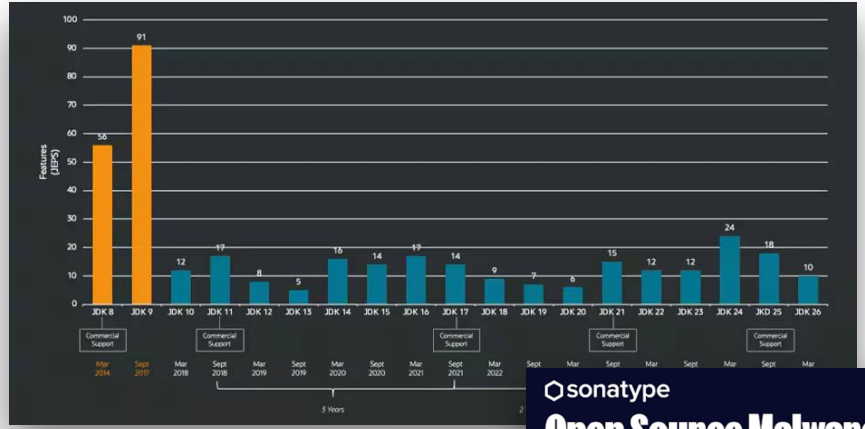
Image generated with https://ideogram.ai/

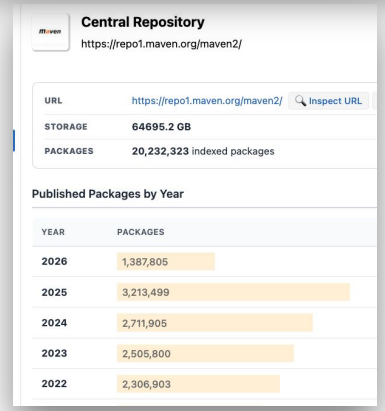
JVM and OSS libraries evolve faster

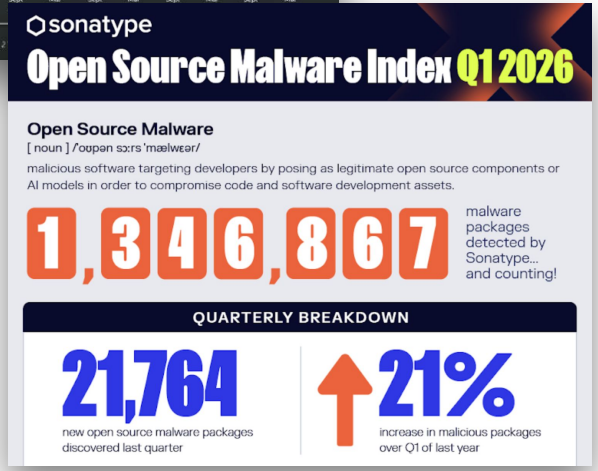
Spring Boot helps you to create Spring-powered, production-grade applications and services with absolute minimum fuss. It takes an opinionated view of the Spring platform so that new and existing users can quickly get to the bits they need.



Release	Released	OSS support	Commercial Support	Latest
4.0	5 months ago (30 Nov 2025)	Ends in 8 months (31 Dec 2026)	Ends in 1 year and 8 months (31 Dec 2027)	4.0.6 (23 Apr 2026)
3.5	11 months ago (31 May 2025)	Ends in 1 month and 3 weeks (30 Jun 2026)	Ends in 6 years (30 Jun 2032)	3.5.14 (23 Apr 2026)
~~3.4~~	1 year and 5 months ago (30 Nov 2024)	Ended 4 months ago (31 Dec 2025)	Ends in 8 months (31 Dec 2026)	~~3.4.13 (18 Dec 2025)~~
~~3.3~~	1 year and 11 months ago (31 May 2024)	Ended 10 months ago (30 Jun 2025)	Ends in 1 month and 3 weeks (30 Jun 2026)	~~3.3.13 (19 Jun 2025)~~







Images from https://endoflife.date/spring-boot, https://www.infoq.com/news/2026/03/java26-released/ and https://www.sonatype.com/blog/q1-2026-open-source-malware-index and https://mvnrepository.com/repos/central

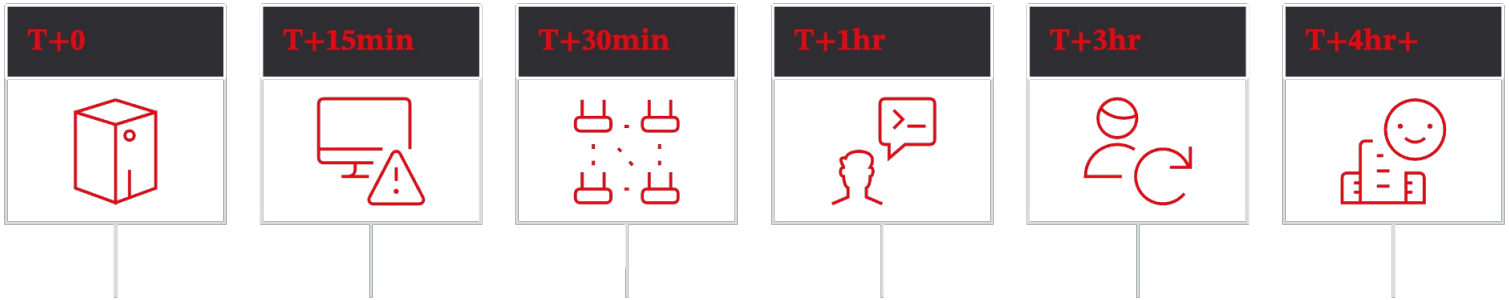
WHAT HAPPENS WHEN 40,000 LIBRARIES SHIP WITH NO SAFETY NET?



Image generated with https://ideogram.ai/

Things Could Go Wrong

Library Release Incident Timeline



Library Ships

New library deployed without verification gate

First Alerts

Initial alerts signal library-related issues

Cascading Failures

Failures spread across multiple services

Server-Side Fix

Server-side fix deployed to address root cause

Member Recovery

Members still experiencing issues due to cached errors

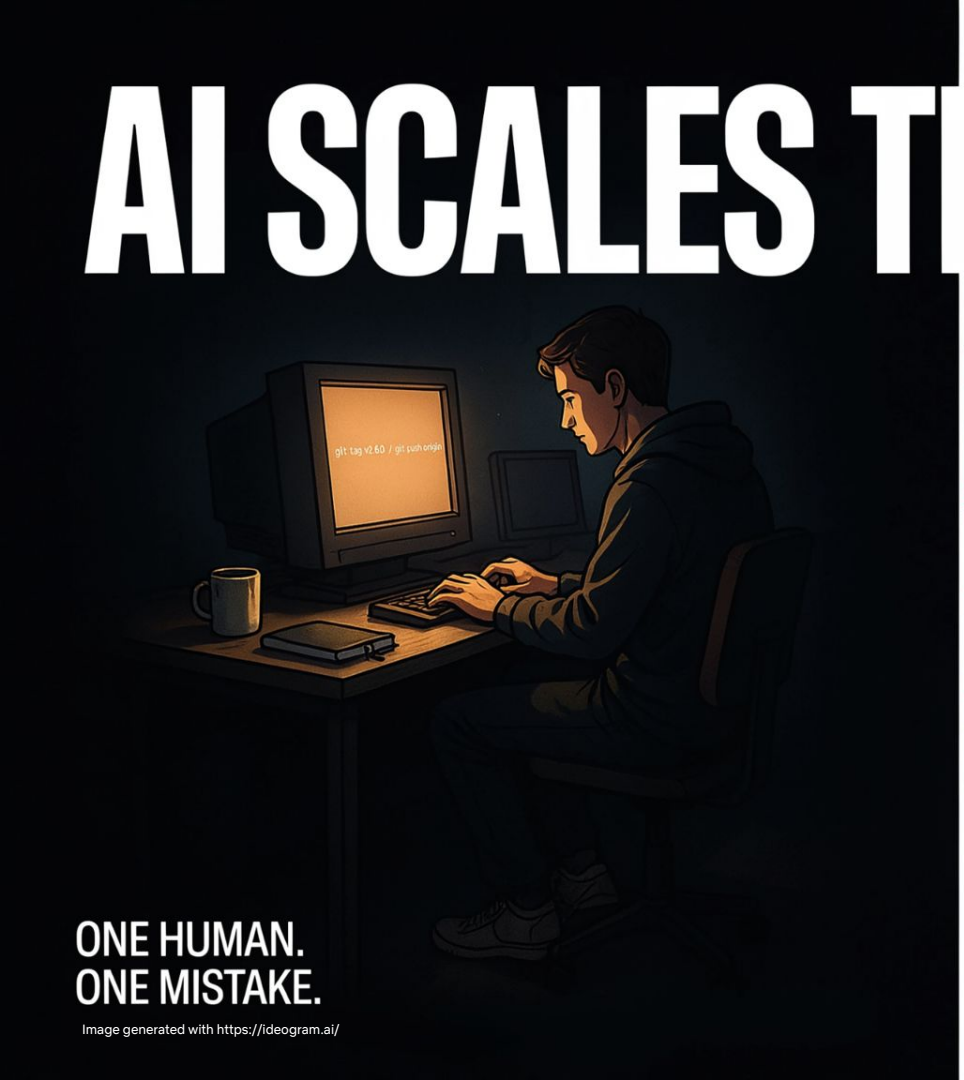
Full Recovery

All services and members fully recovered

Image generated with napkin.ai


@Deprecated
3 YEARS.
THE DEPRECATION WAS DECLARED.
THE CALLERS REMAINED.
NOBODY COULD SEE EITHER.

AI SCALES THE MISTAKE.



ONE HUMAN.
ONE MISTAKE.



ONE AGENT.
ONE THOUSAND MISTAKES.

Image generated with https://ideogram.ai/

VELOCITY WITHOUT VISIBILITY.



AI DIDN'T CREATE THE GAP.
IT MADE IT IMPOSSIBLE TO IGNORE.



? ? ? ? ?

FIVE QUESTIONS

WE COULDN'T ANSWER.

PORTABLE CHECKLIST

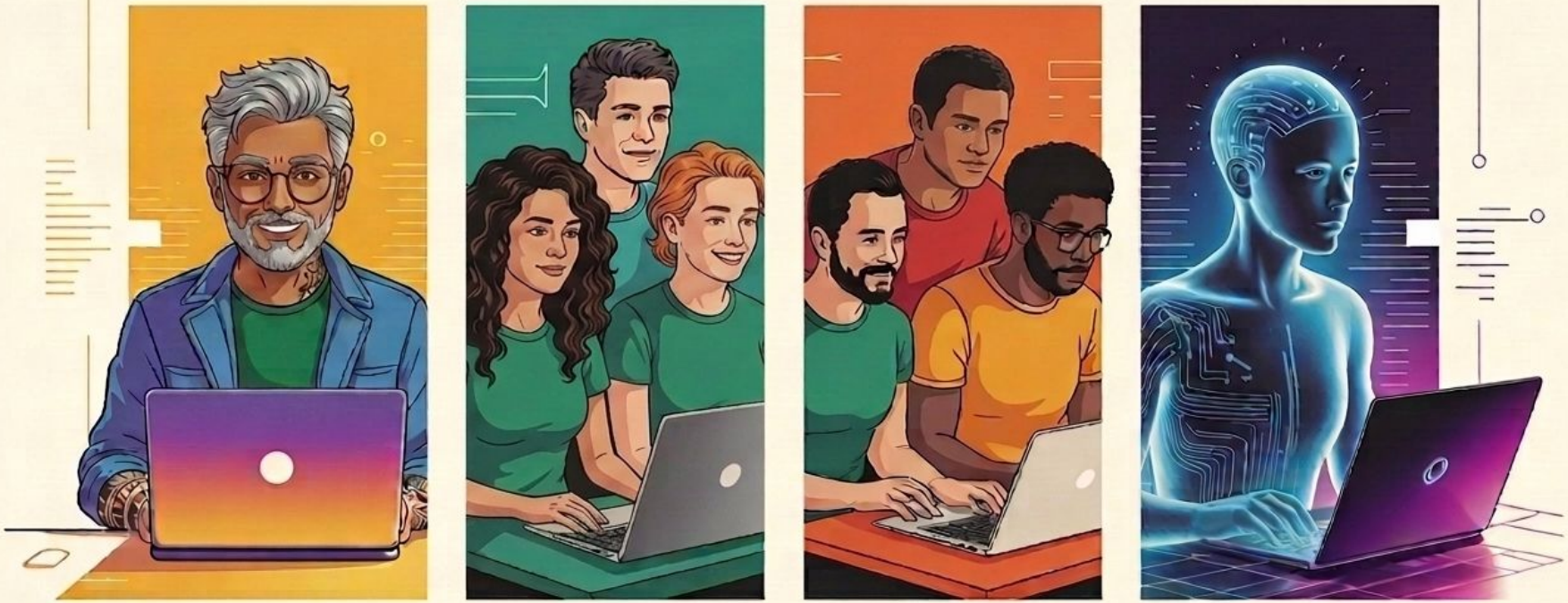


Image generated with https://ideogram.ai/

STABILITY SIGNALS.



IS THIS LIBRARY SAFE TO USE?

No health. No tier. No lifecycle. Just a version number!

COMPATIBILITY VALIDATION.



WILL THIS BREAK ANYTHING?

We had no way to know.

Image from https://lordicon.com/icons/wired/lineal/596-eggs

IMPACT VISIBILITY.



WHAT DOES THIS CHANGE KNOCK OVER?

We shipped. Then we found out.

LIFECYCLE COMMUNICATION



DID YOUR CONSUMERS GET THE MEMO?

The deprecation was declared. Nobody heard it.

PROPORTIONAL ESCALATION.



IS THIS A FIRE OR BURNT TOAST?

Without signals, every change looks the same.



Image generated with https://ideogram.ai/

MACHINE READABLE



Image generated with https://ideogram.ai/

THE SOLUTIONS.



Image generated with https://ideogram.ai/



WE STARTED WITH A STRATEGY.

NOT WITH TOOLS.

Five questions. One framework. Built with the people who would use it.

Image generated with https://ideogram.ai/



SAFE LIBRARY RELEASE WORKING GROUP

CHAMPIONS WHO SHAPED THE STRATEGY

Before the tools existed — they defined what good looked like.

Image generated with https://ideogram.ai/

STABILITY SIGNALS



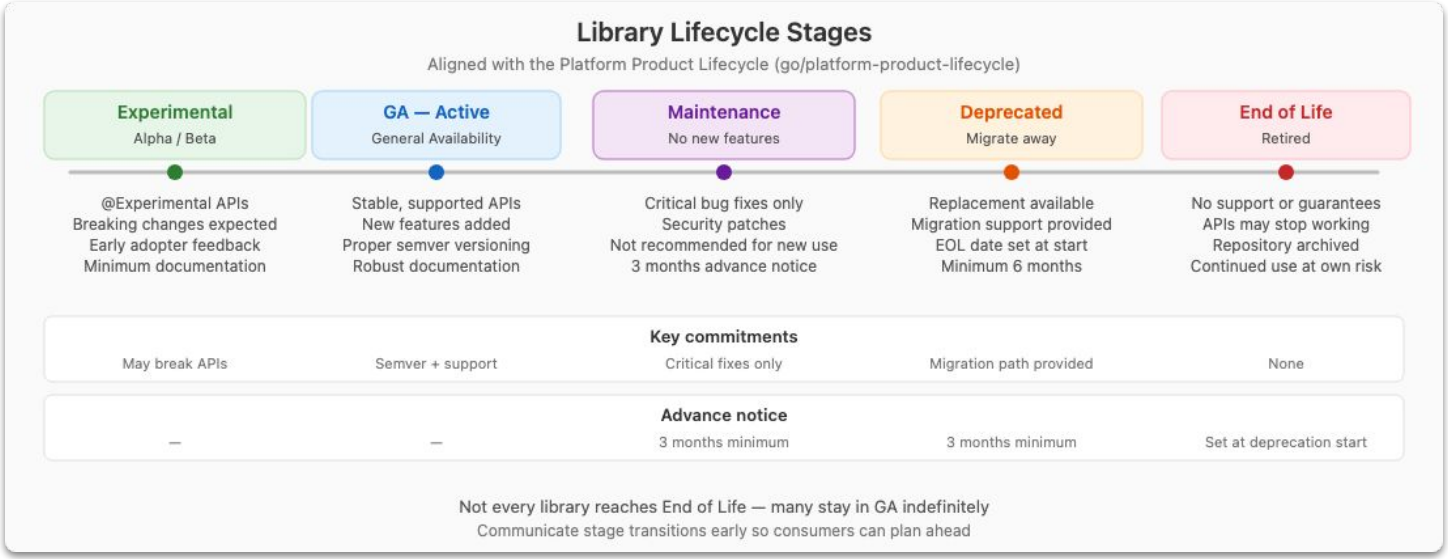
LIFECYCLE STATUS

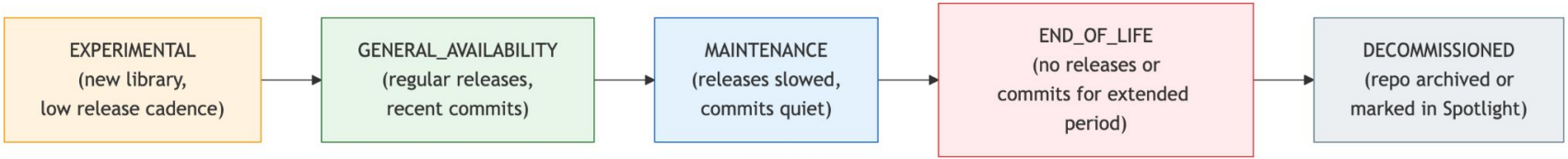
AVAILABILITY TIER

HEALTH GRADE

Image generated with https://ideogram.ai/

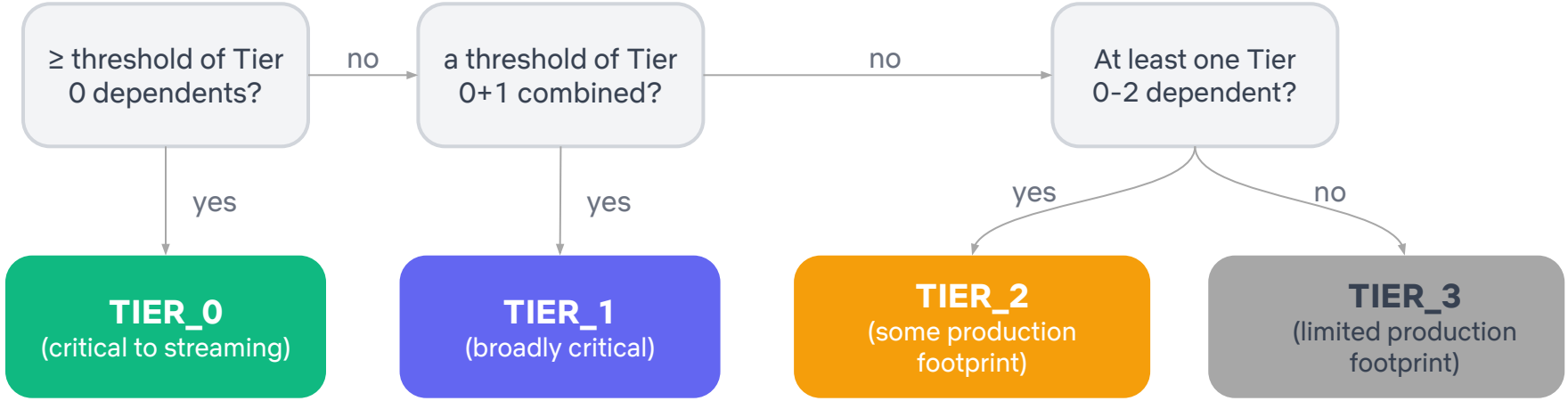
Formalized and Derived Lifecycle Stages





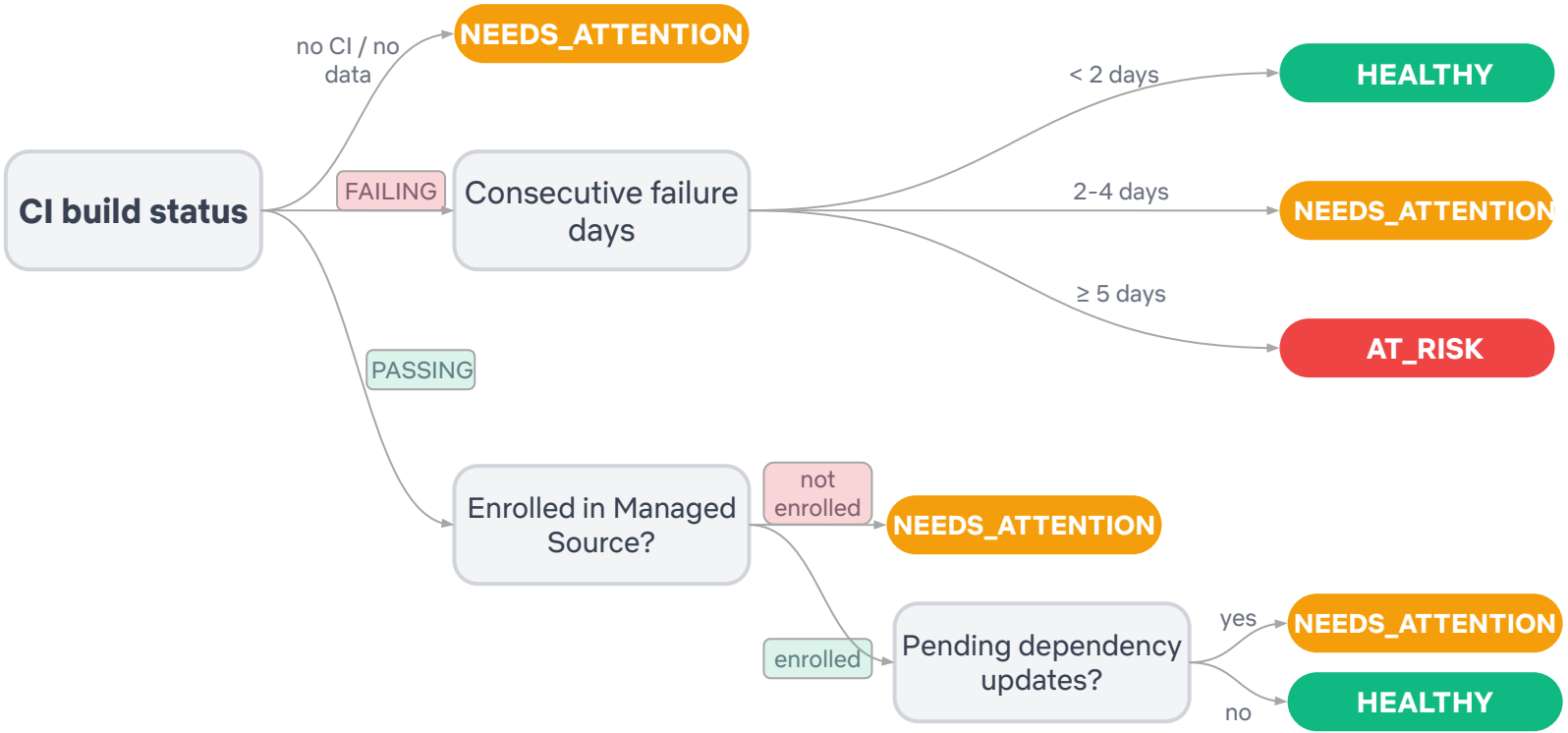
Images from internal documentation

Deriving library criticality in our ecosystem



Images from internal documentation

Deriving library health



Images from internal documentation

Library owners have better insights

Signals Alpha

LIFECYCLE STATUS

General Availability

Stable and recommended for production use.

Derived Jun 14, 2026

LAST RELEASE	RELEASES / YEAR	COMMITS (90D)	LAST COMMIT	PROD DEPENDENTS
17 days ago	41	198	3 days ago	169

LIBRARY AGE
10y 7mo

AVAILABILITY TIER

Tier 0

Critical — used by Tier 0 (critical) production services.

Derived Jun 14, 2026

TIER 0	TIER 1	TIER 2	TIER 3+	TOTAL
28	26	18	97	169

DRIVING SERVICE api

HEALTH GRADE

Healthy

Build passing and no dependency updates pending.

Derived Jun 14, 2026

BUILD	MANAGED SOURCE DEP. UPDATES
Passing	Up to date

Images from internal tooling

Agents as well...

● **Library Check:** [redacted]

Recommendation: ADOPT ✅

No known lifecycle, health, or archiving issues.

Signals

Signal	Value
Lifecycle	GENERAL_AVAILABILITY
Tier	0 — Mission-critical
Health	HEALTHY
Archiving	not available

Detail

- **Lifecycle (GENERAL_AVAILABILITY):** Actively maintained and recommended for production use.
- **Tier 0:** Depended on by mission-critical Netflix services. Strong support guarantees.
- **Health (HEALTHY):** CI is passing. Dependencies are up to date.
- **Archiving:** Not tracked in the archiving pipeline.

Images from internal tooling

API LIFECYCLE ANNOTATIONS



Image generated with https://ideogram.ai/

API Lifecycle annotations

```java
package com.netflix.mylib.api;

public class MyLibrary {

    // Stable API - part of semver guarantees
    public void stableMethod() { }

    // Experimental - may change in minor releases
    @Experimental
    public void experimentalMethod() { }

    // Deprecated - will be removed in a future major release
    @Deprecated
    public void oldMethod() { }

    // Deprecated with removal signal - removal is imminent
    @Deprecated(forRemoval = true)
    public void legacyMethod() { }
}
```

```java
// src/main/java/com/netflix/mylib/api/package-info.java
@Exported
package com.netflix.mylib.api;

import com.netflix.annotations.Exported;
```

Images from internal example class in an IDE

Improved Guidance on Lifecycle

Deprecation



The migration window length scales with your consumer count and the scope of the change

Improved Guidance on Lifecycle

Before You Break

Before You Break — Checklist

1 Assess Blast Radius

- Astrid → consumer count
- Sourcegraph → API usages
- ArchRules → @Deprecated usage

2 Verify Migration

- Consumers on replacement version?
- Call sites to old API cleared?
- Remaining teams coordinated?

3 Major Release

- Remove deprecated APIs
- Tag with major version bump
- Release notes + migration guide

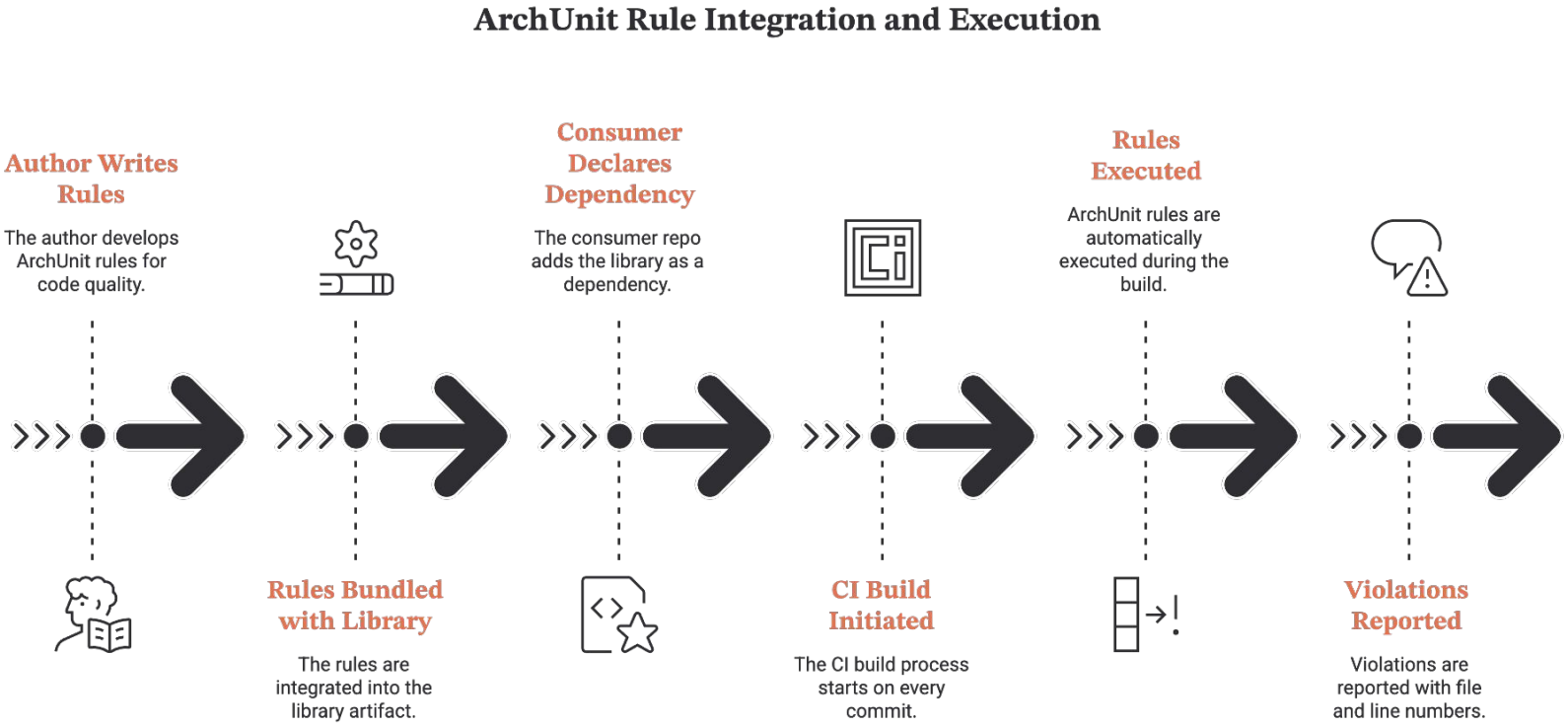
LIFECYCLE COMMUNICATION



Image generated with https://ideogram.ai/


THE BUILD
IS THE GATE
Archrules enforces architectural patterns before anything ships.
Image generated with https://ideogram.ai/

Scaling ArchUnit with Nebula ArchRules



Screenshots from internal tool

Scaling ArchUnit with Nebula ArchRules

```
> Task :nebula:archRulesConsoleReport
ArchRule Summary:
com.netflix.gradle.common.archrules.GradleEnvironmentArchRules
com.netflix.nebula.archrules.gradleplugins.GradlePluginBestPractices
    abstract getters                                                MEDIUM     (19 failures)
    Task using internal gradle APIs                                 MEDIUM     (30 failures)
    Plugin storing Project references                               HIGH       (6 failures)
    Extension fields use Provider API                               MEDIUM     (9 failures)
    Plugin using deprecated gradle APIs                             MEDIUM     (3 failures)
    Task declares inputs and/or outputs                             HIGH       (3 failures)
    provider properties                                             MEDIUM     (3 failures)
    Plugin using internal gradle APIs                               MEDIUM     (15 failures)
com.netflix.annotations.archrules.NetflixJavaAnnotationsArchrules
com.netflix.nebula.archrules.deprecation.DeprecationRule
    deprecated                                                      LOW        (22 failures)
com.netflix.nebula.test.archrules.NebulaTestArchRules
    noDeprecatedNebulaTest                                          MEDIUM     (6 failures)
Note: In order to see details of rules with priority less than MEDIUM, run build with --info
```

Learn more in our official blog post!

Scaling ArchUnit with Nebula ArchRules

10 min read · May 8, 2026

Netflix Technology Blog Following

Screenshots from internal tool and from Medium article

BINARY COMPATIBILITY + SEMVER ENFORCEMENT

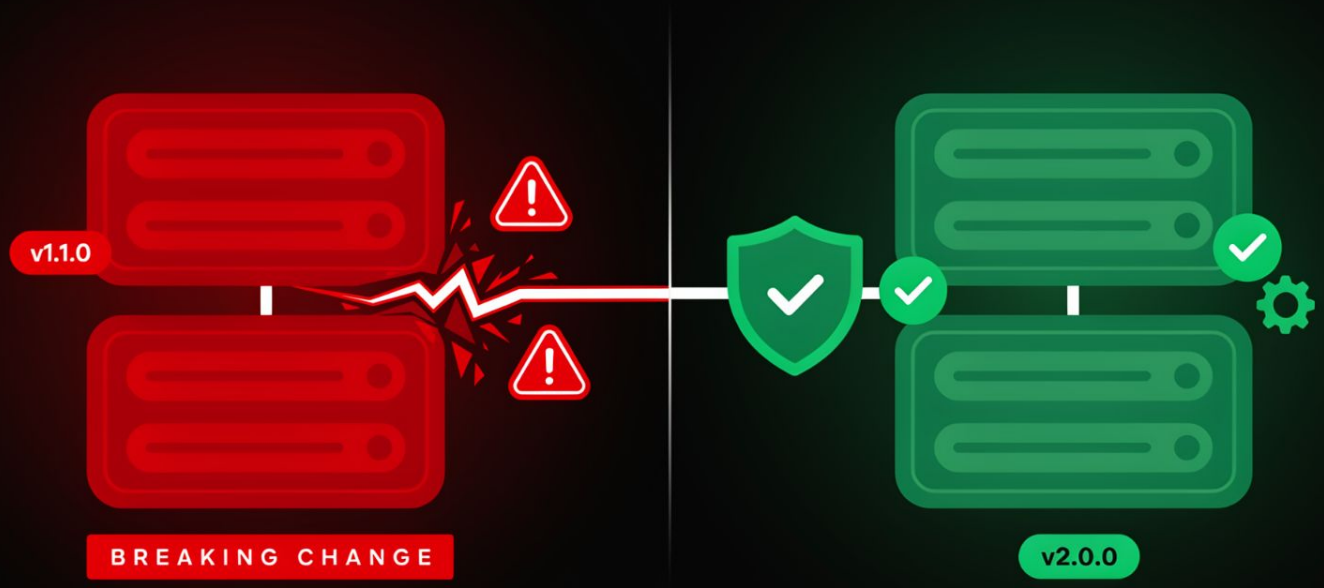
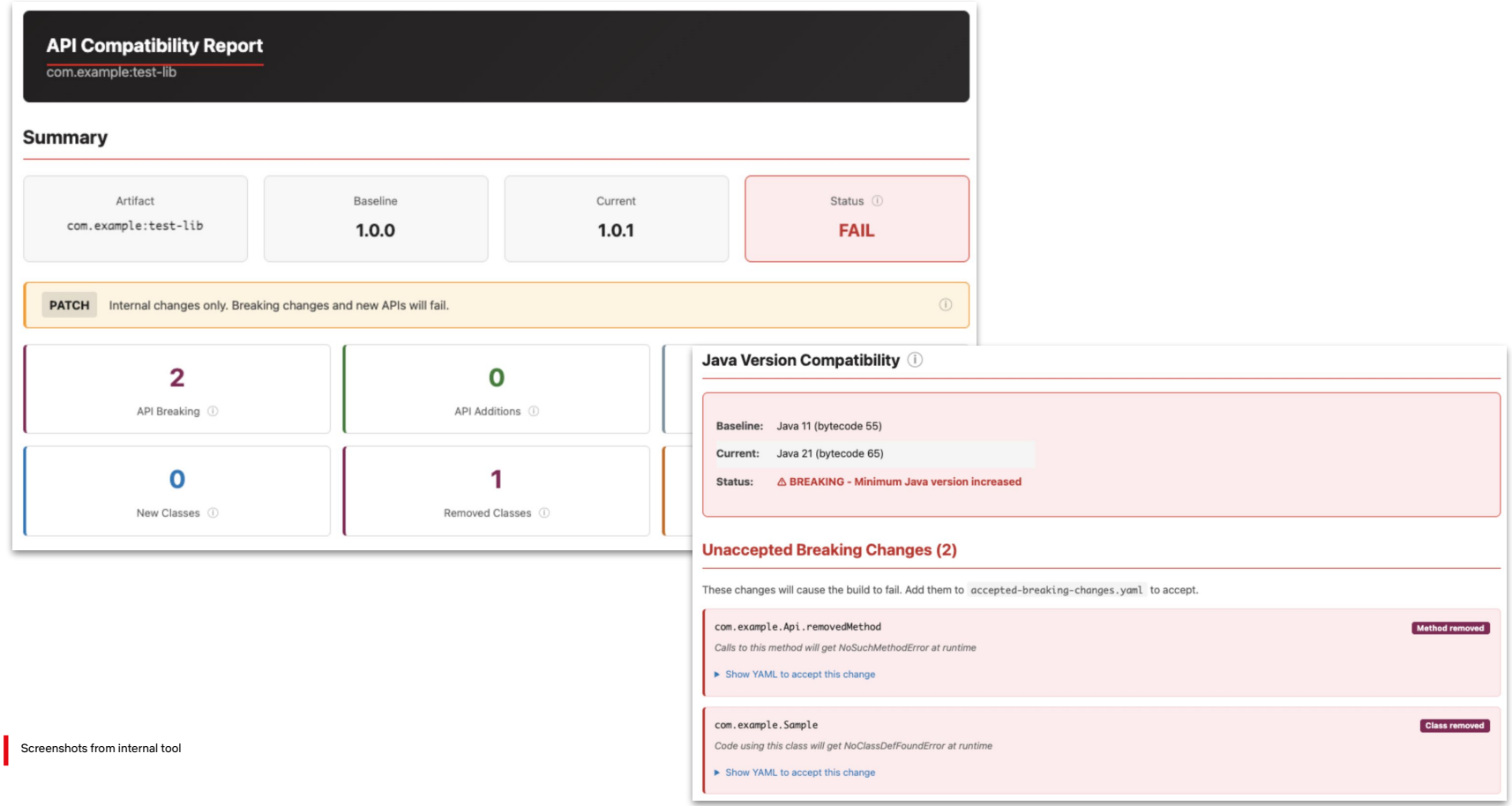
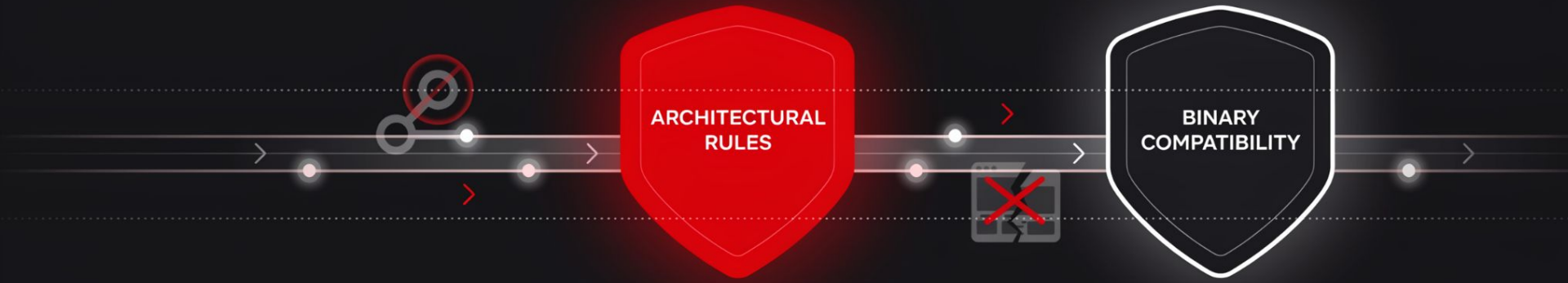


Image generated with https://ideogram.ai/

Pre-release API compatibility reports



Screenshots from internal tool



TWO LAYERS.
ONE BUILD.

Archrules enforces patterns. Binary compat enforces contracts.

Image generated with https://ideogram.ai/

BUILD-TIME ANALYTICS

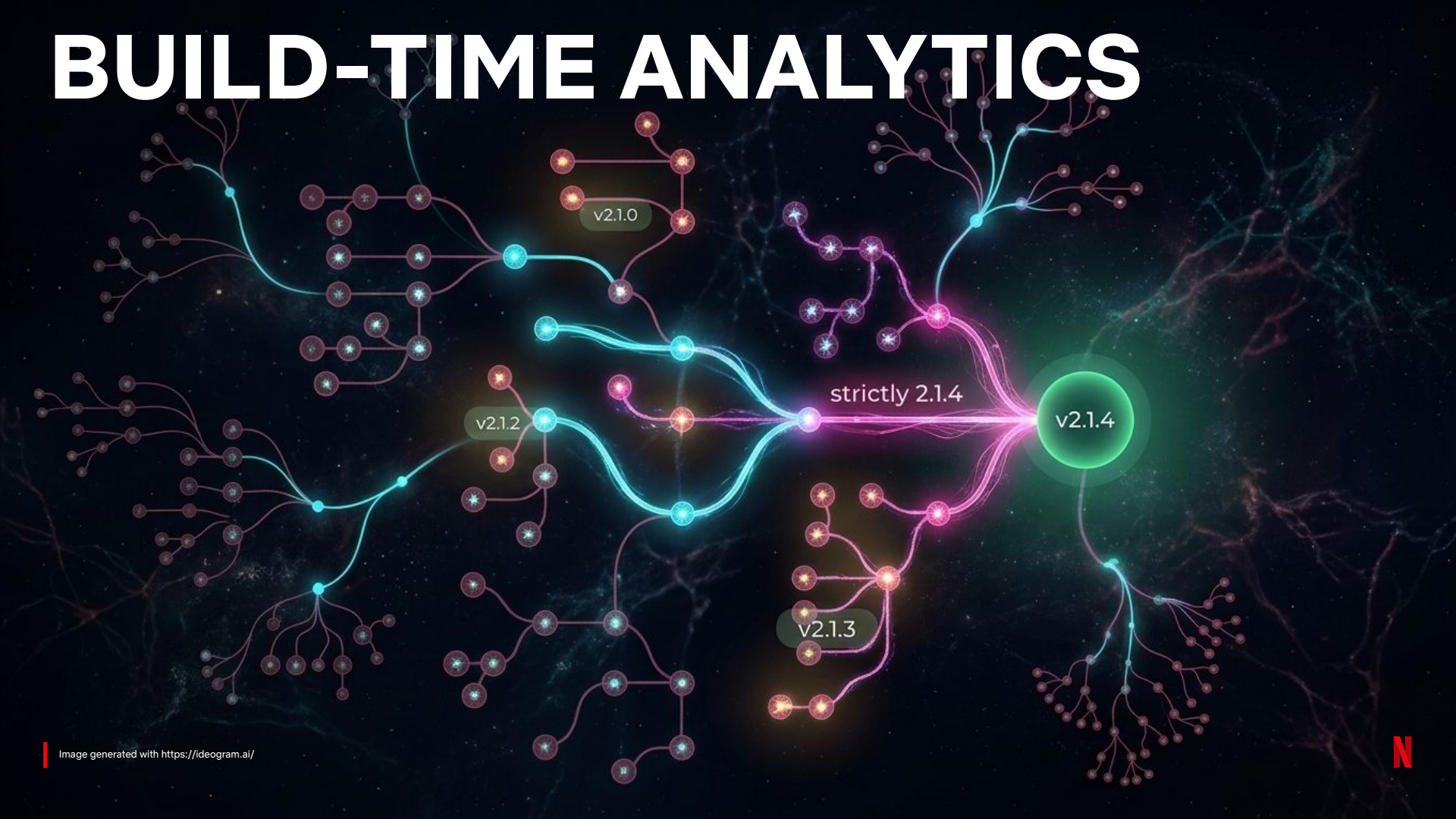


Image generated with https://ideogram.ai/

BUILD-TIME ANALYTICS

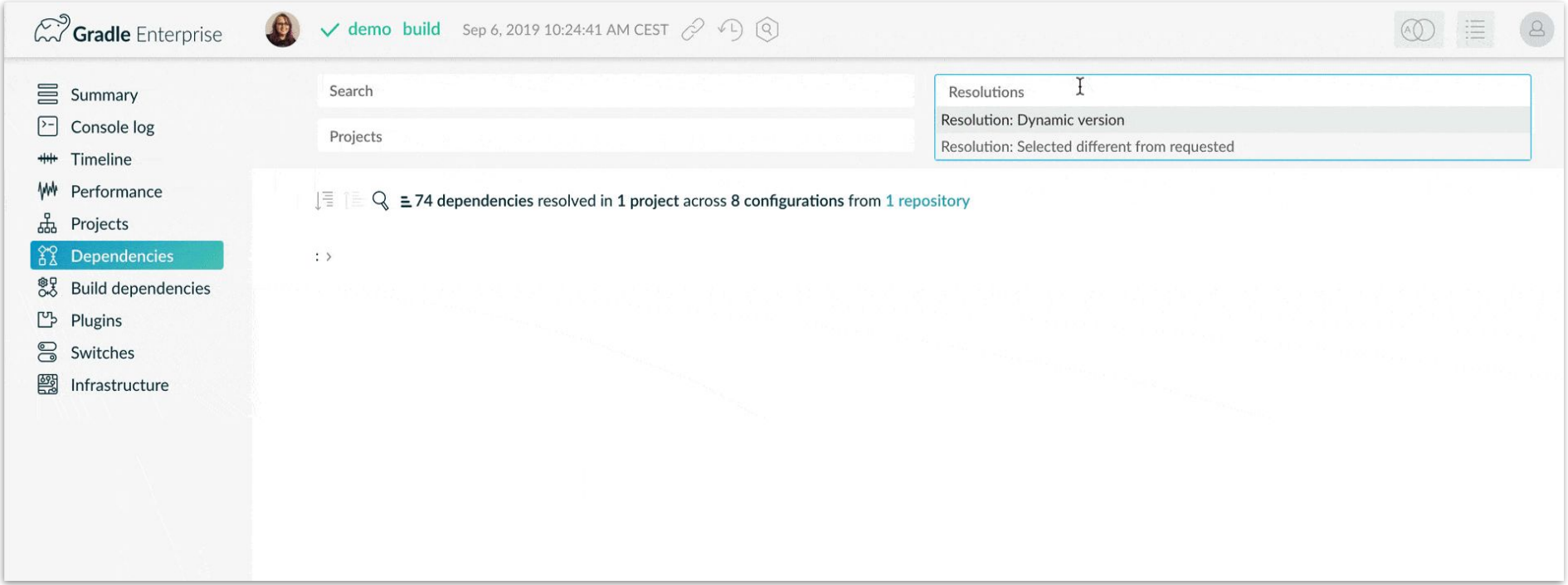


Image from Develocity product demo: https://gradle.com/blog/improved-gradle-dependency-resolution-insights-in-build-scans/

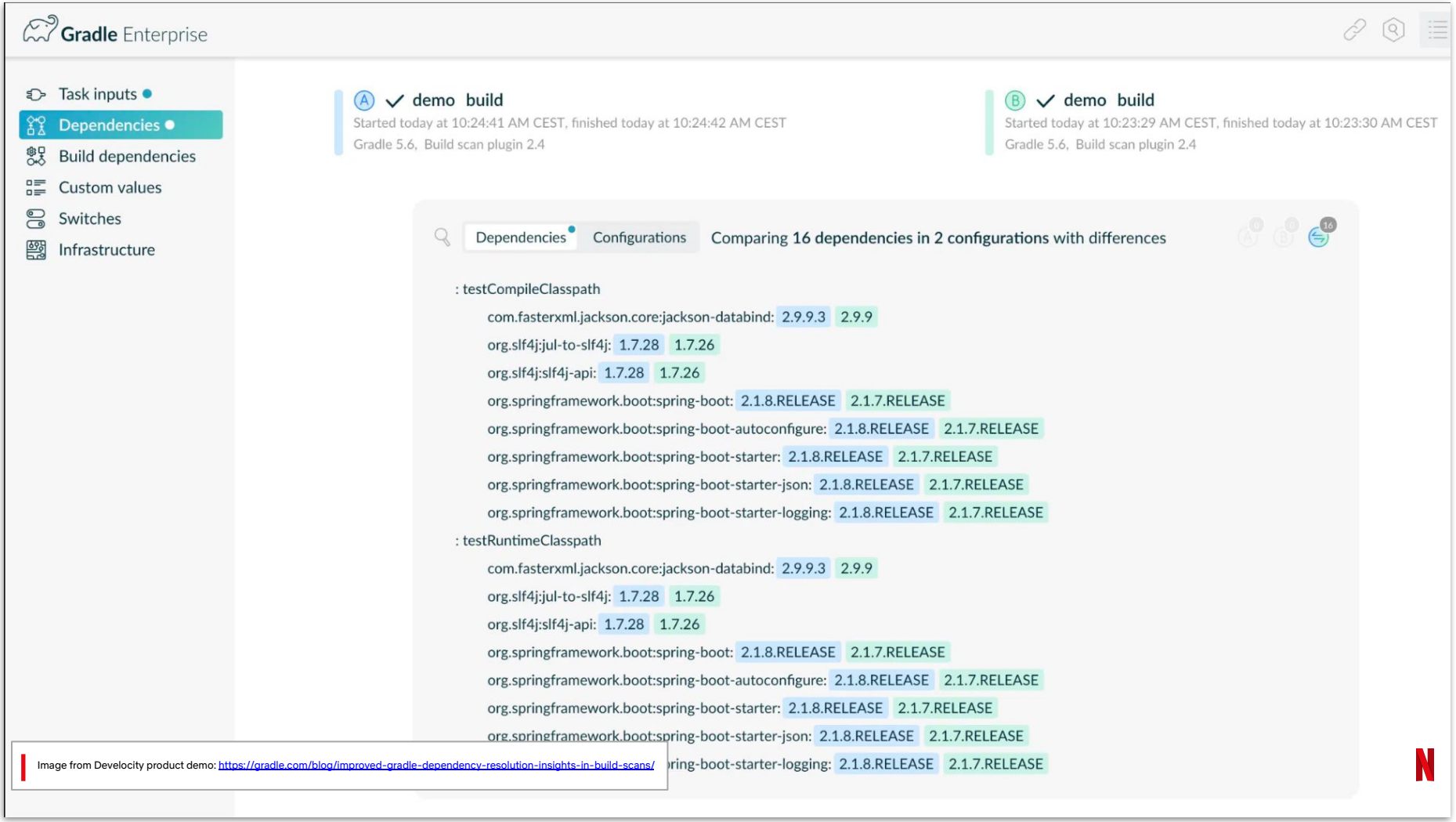
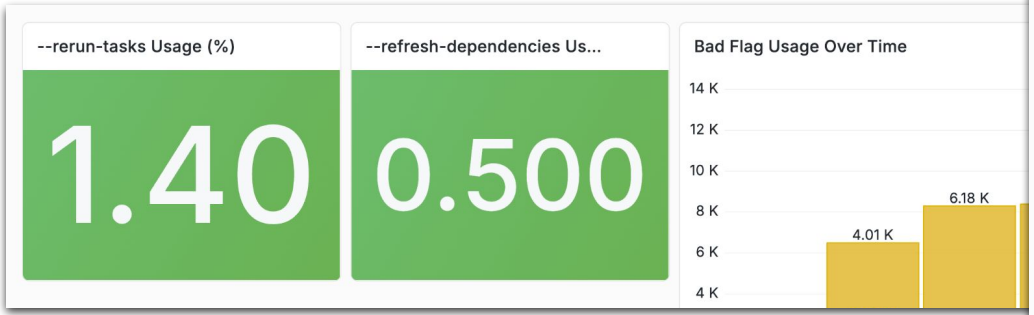
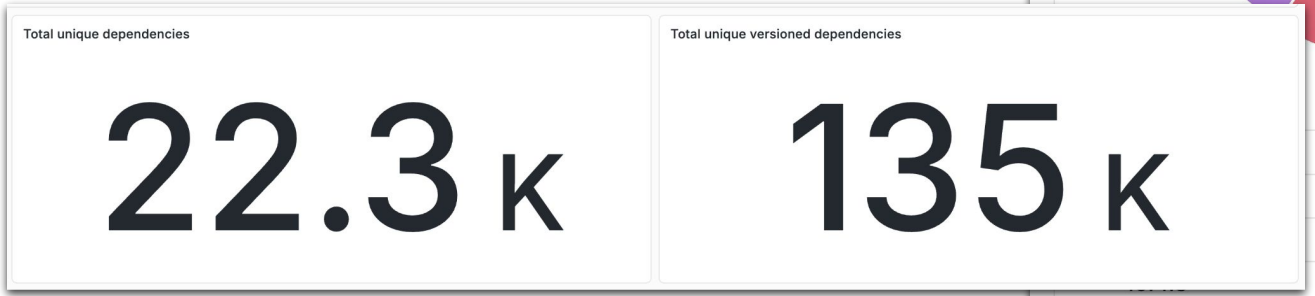


Image from Develocity product demo: https://gradle.com/blog/improved-gradle-dependency-resolution-insights-in-build-scans/

EXPORTING BUILD-TIME ANALYTICS





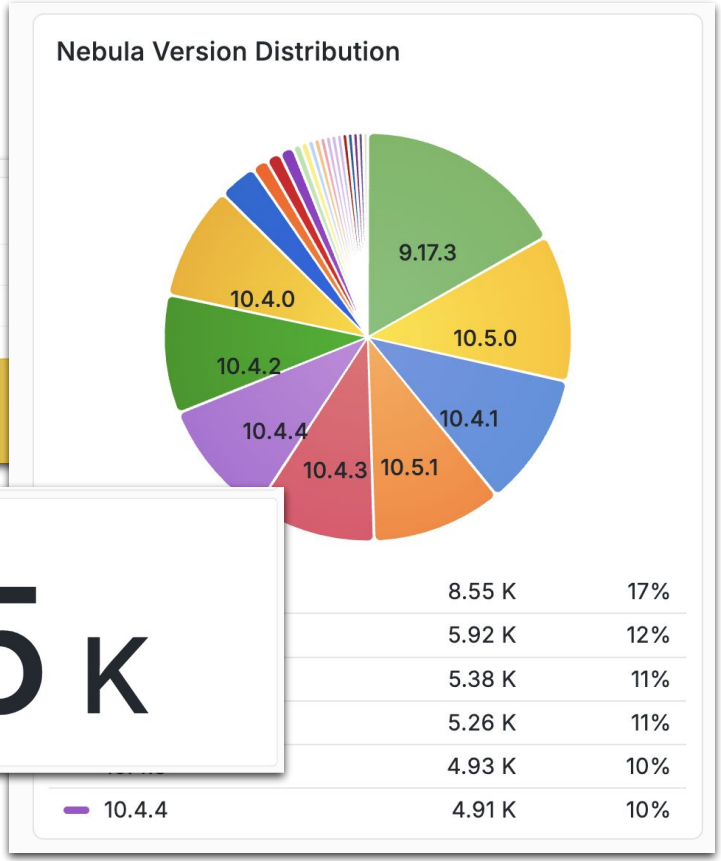


Image from https://lordicon.com/icons/wired/lineal/995-table-sheet-spreadsheet and https://lordicon.com/icons/wired/lineal/1329-responsive

RUNTIME DEPENDENCY GRAPH

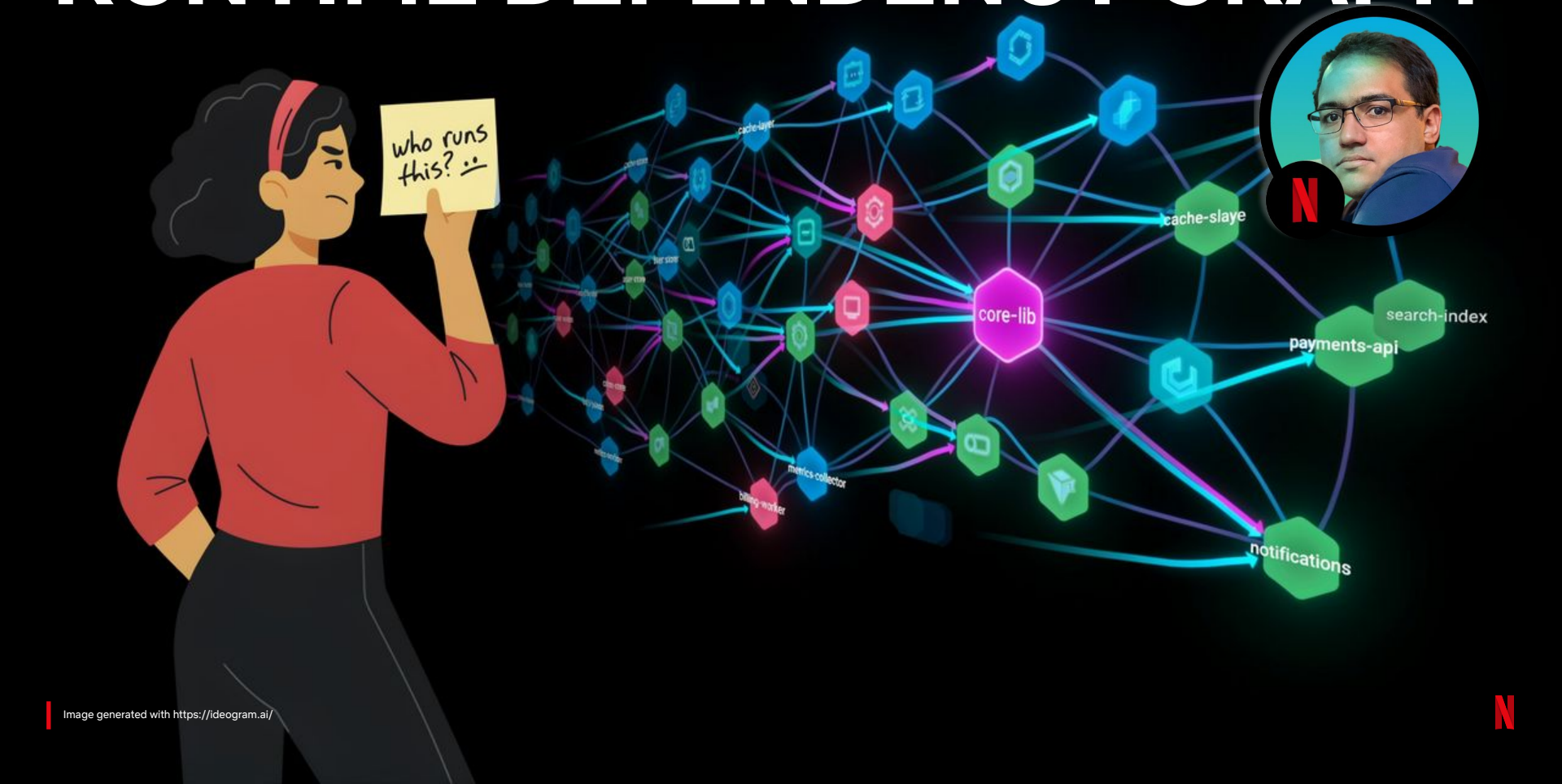
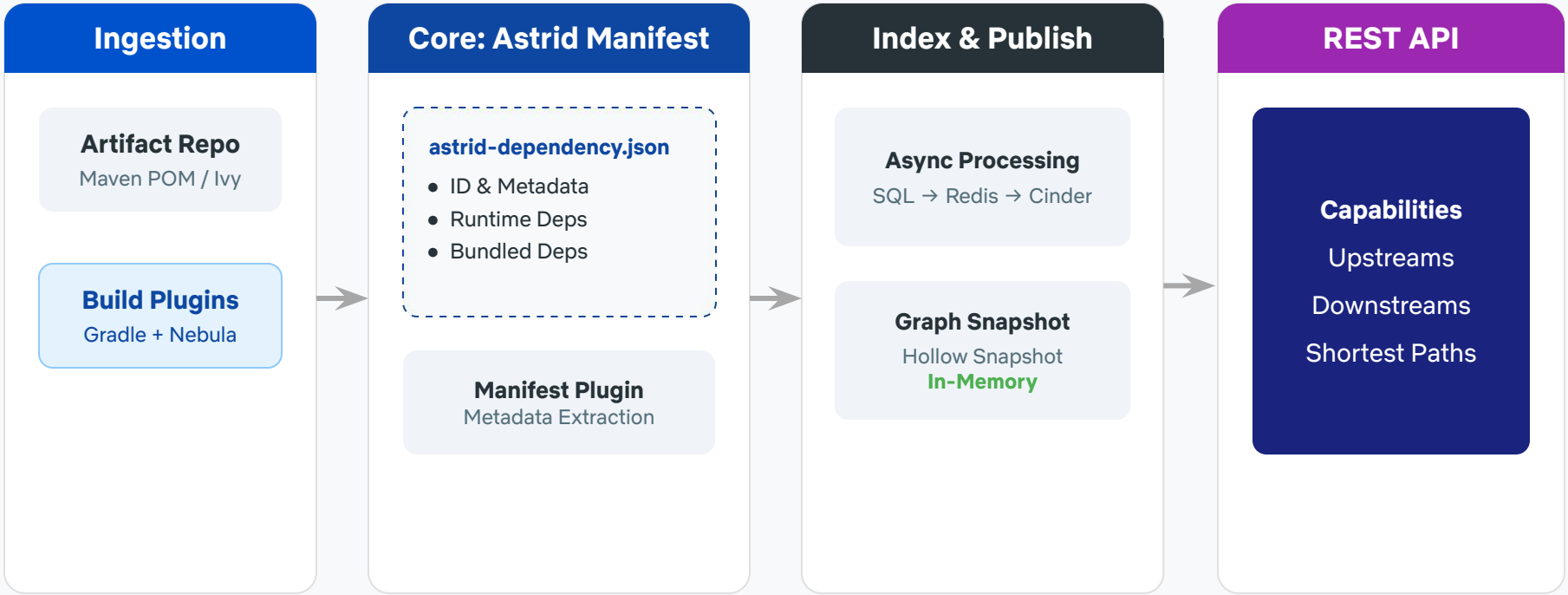


Image generated with https://ideogram.ai/

We built Astrid



Design from internal tool

Understanding library adoption

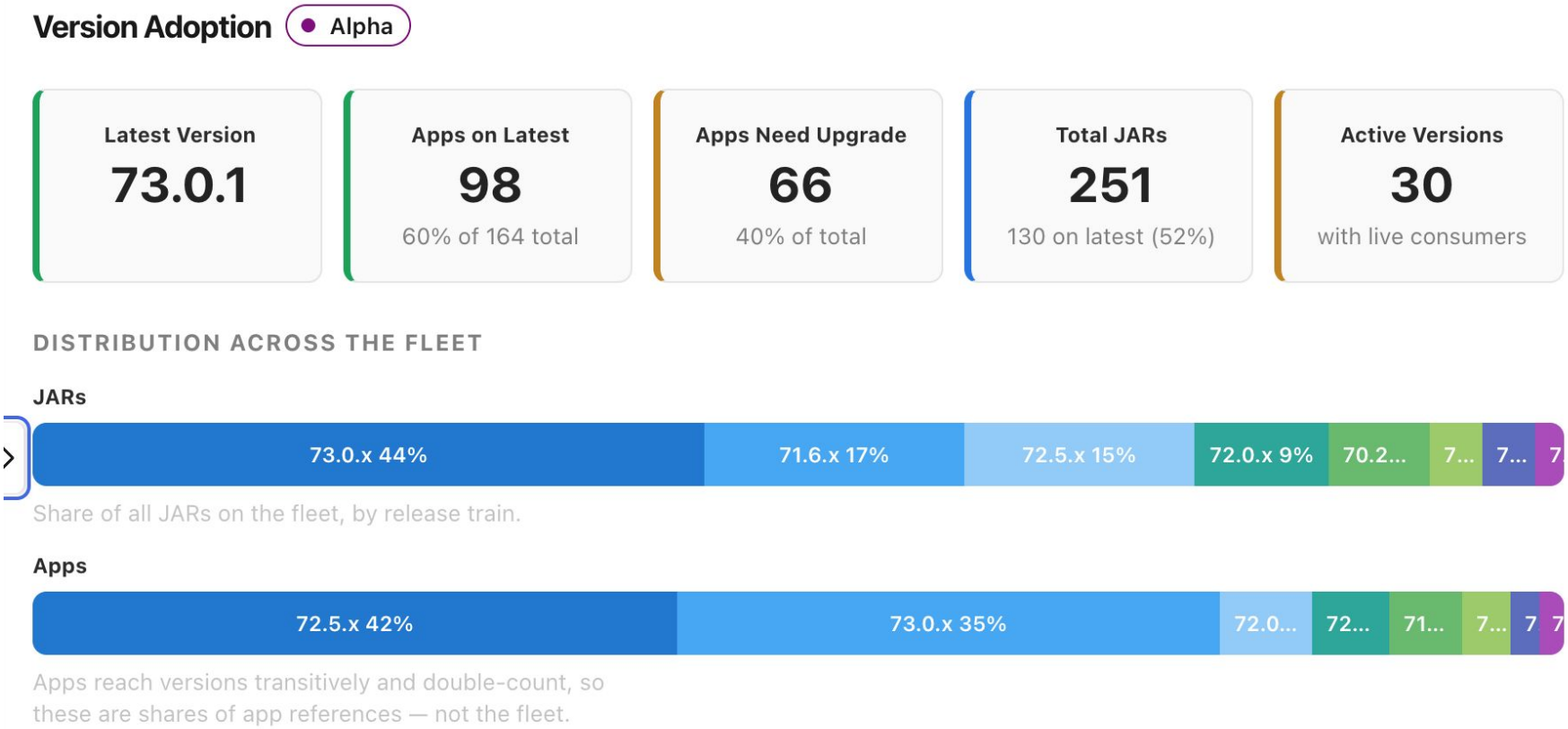
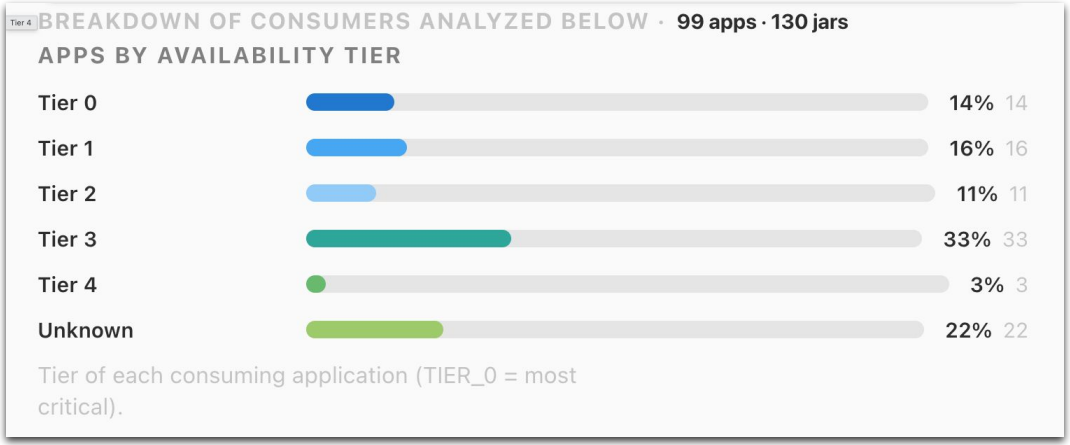
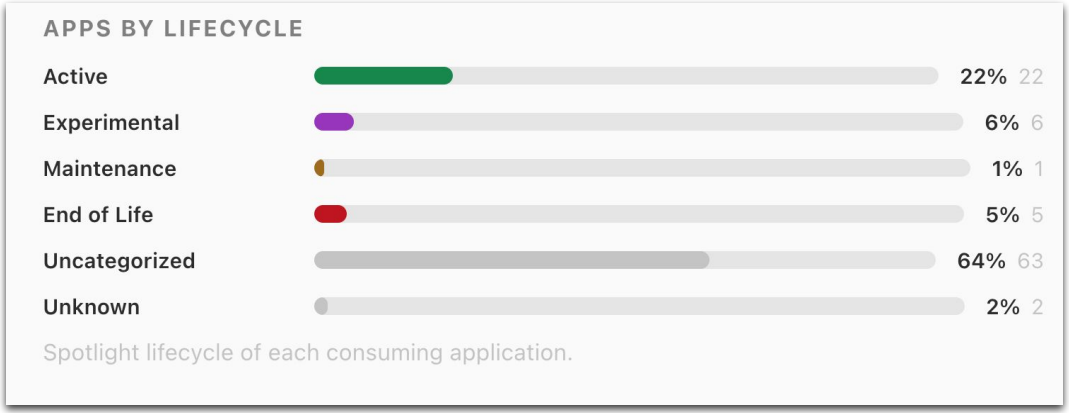


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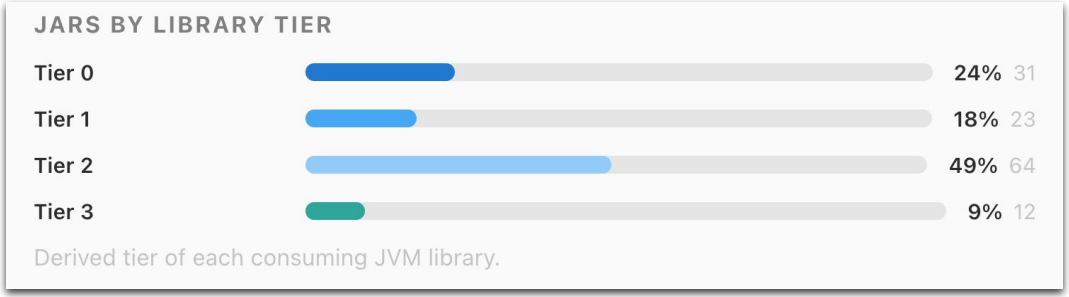
Understanding library adoption



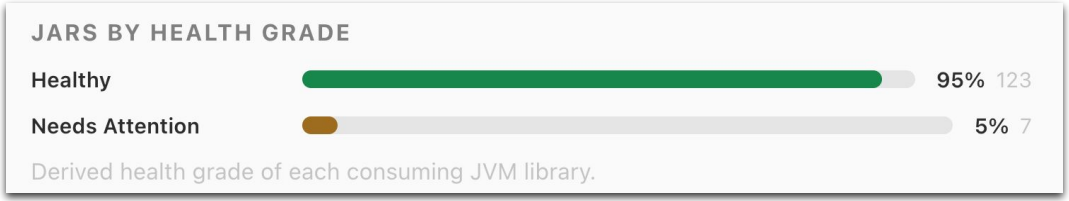


Screenshots from internal tool

Understanding library adoption

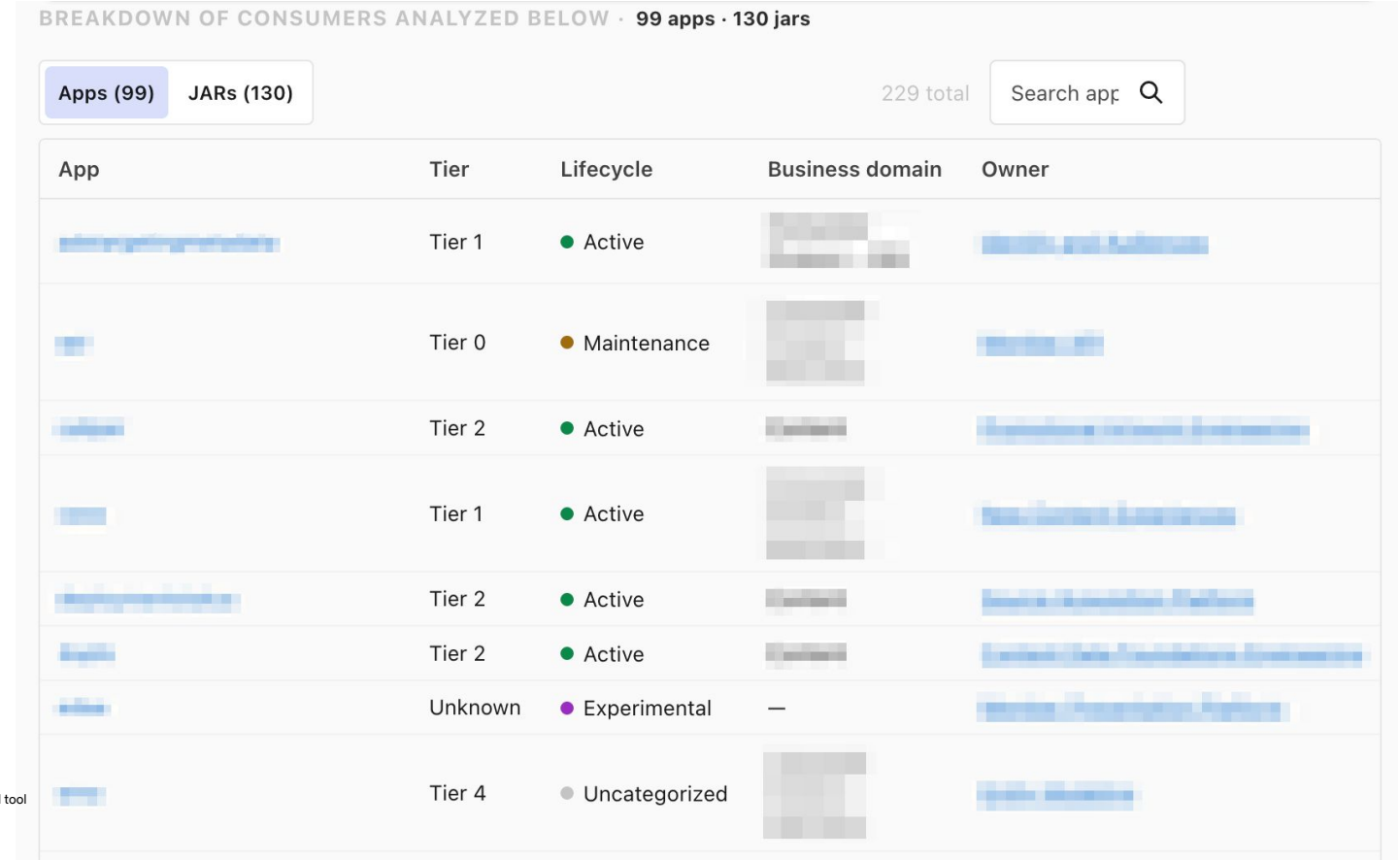






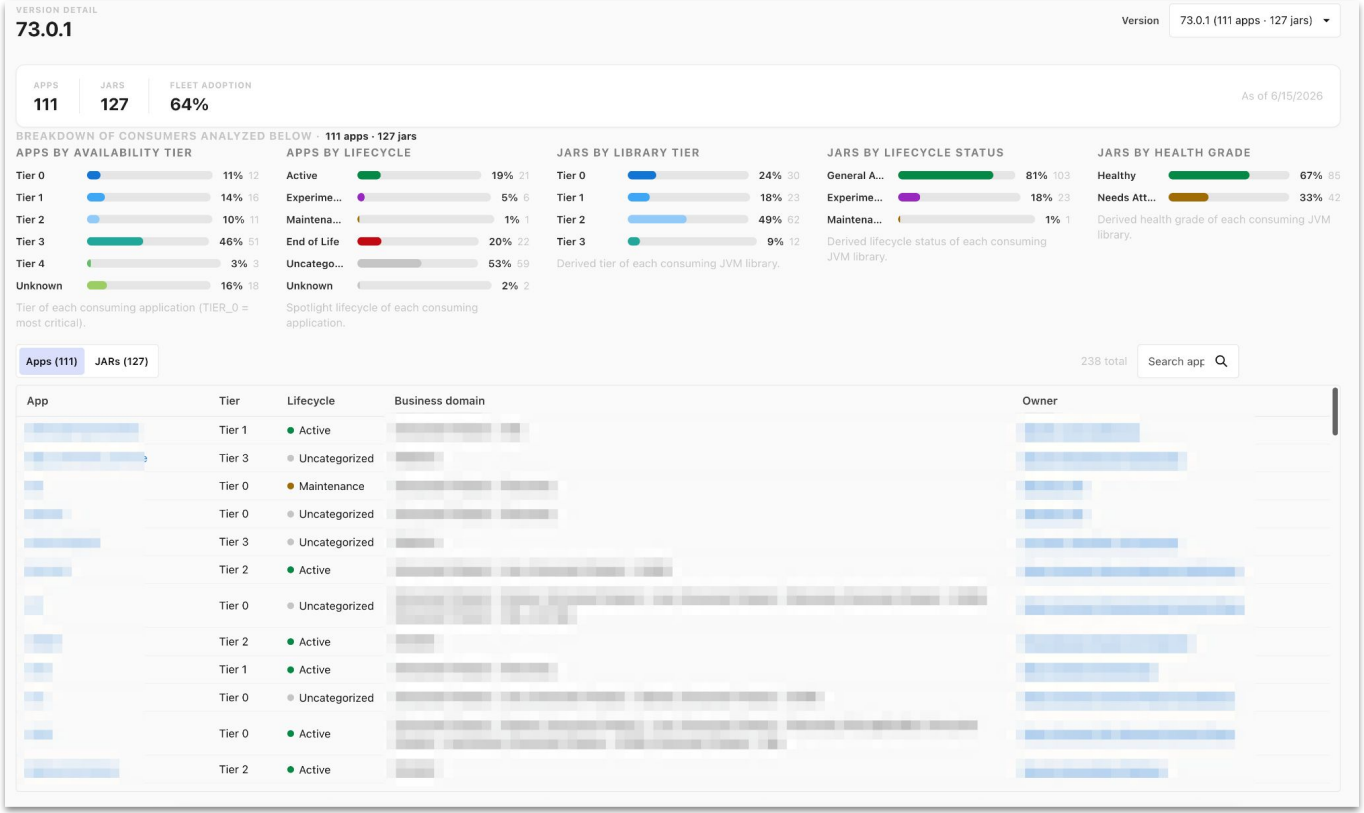
Screenshots from internal tool

Understanding library adoption



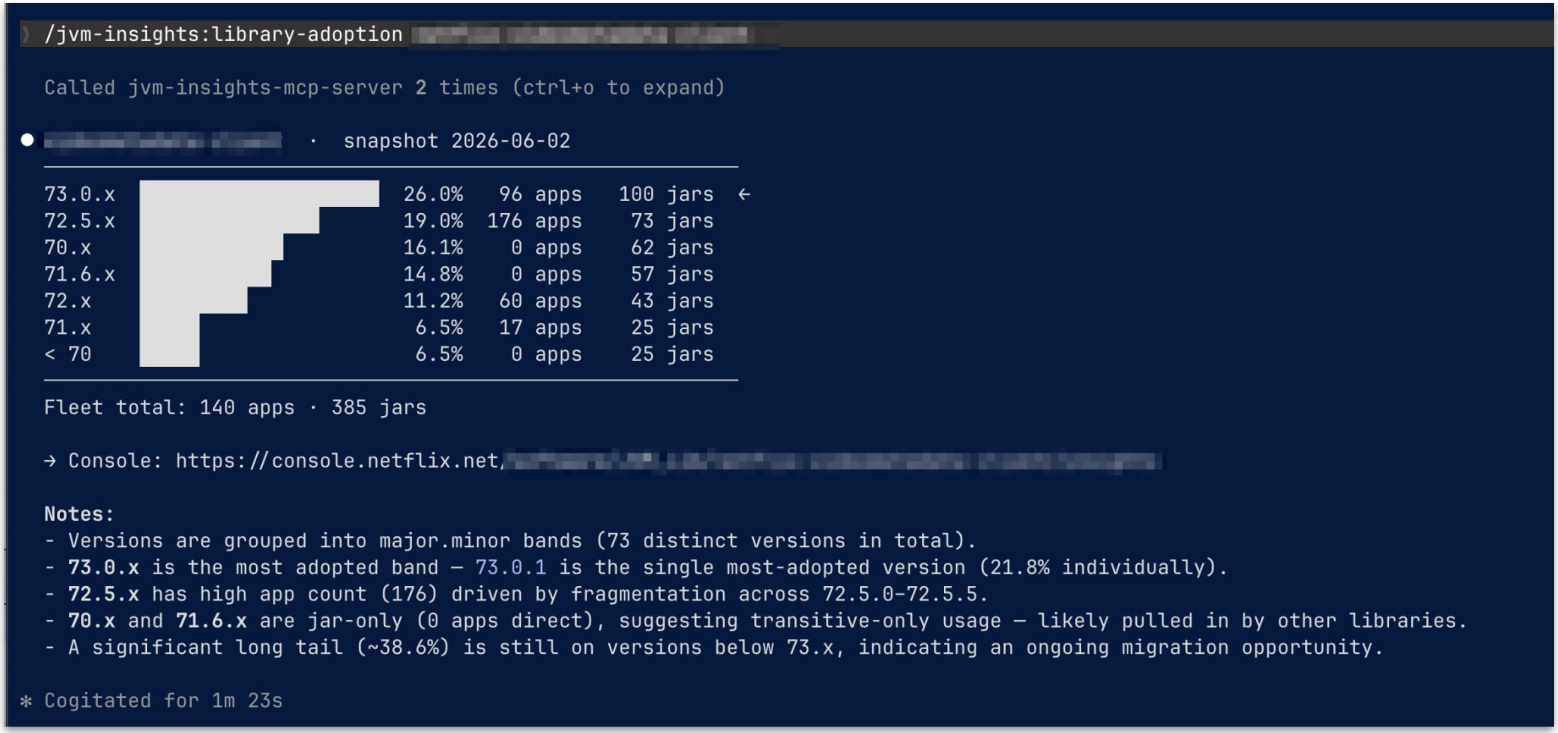
Screenshots from internal tool

Understanding library adoption



Screenshots from internal tool

Of course, agents know this as well…



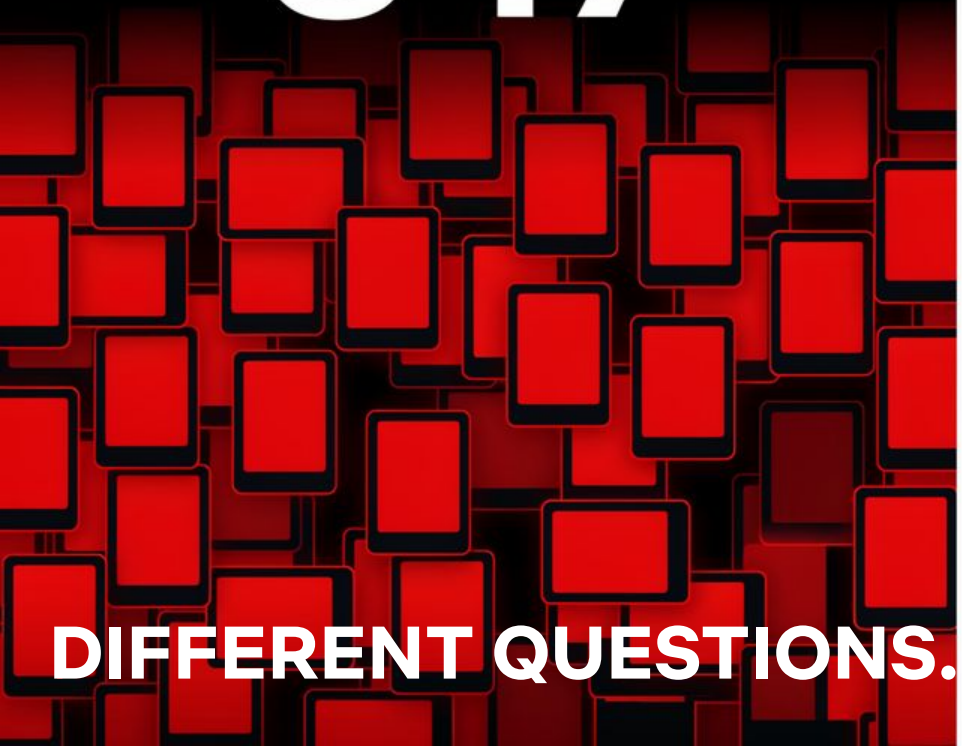
Screenshots from internal tool

HAS IT ON CLASSPATH

847

CALLS THE METHOD

3



DIFFERENT QUESTIONS. DIFFERENT ANSWERS.

Image generated with https://ideogram.ai/

SYMBOL-LEVEL INDEXING

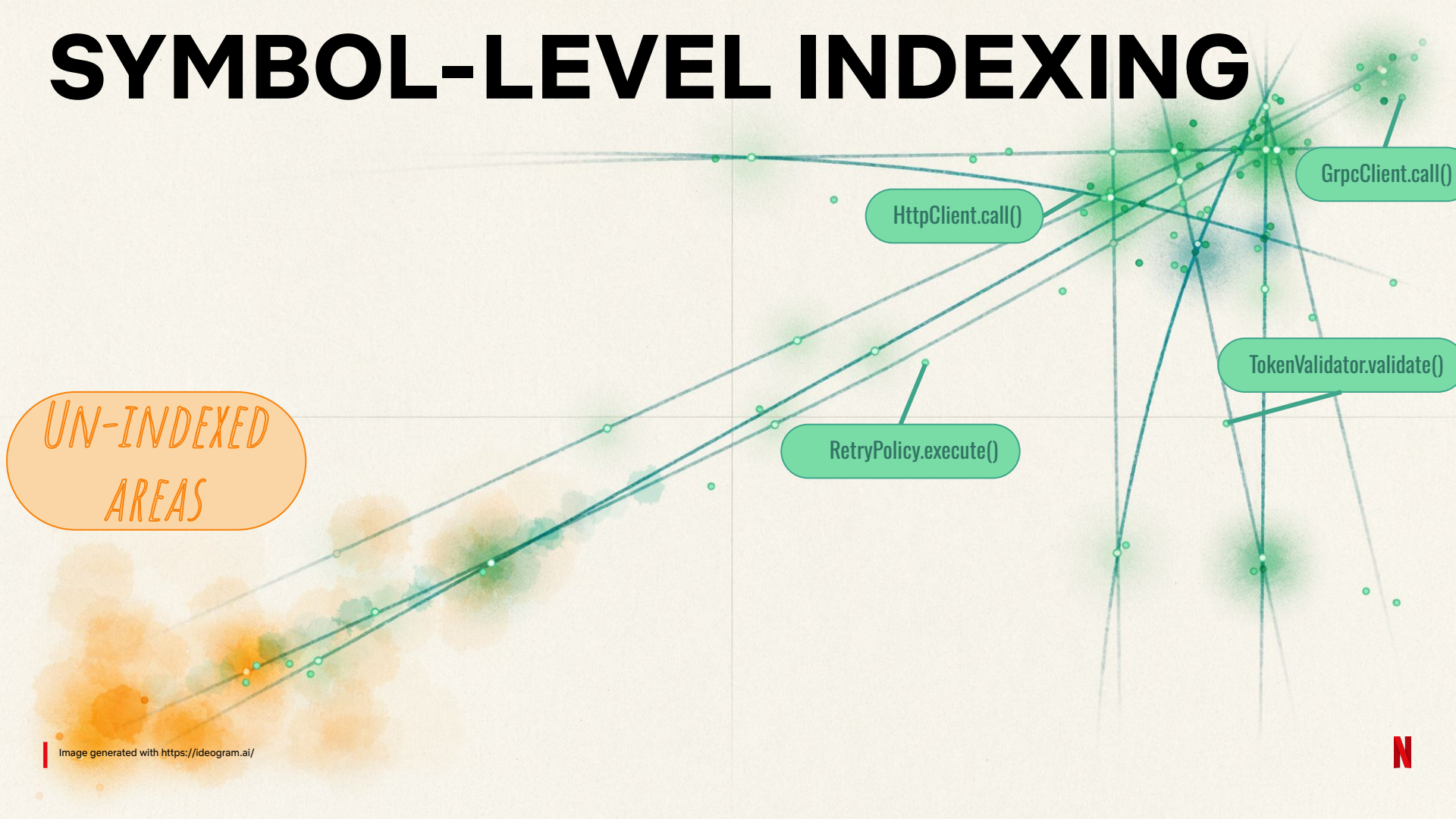
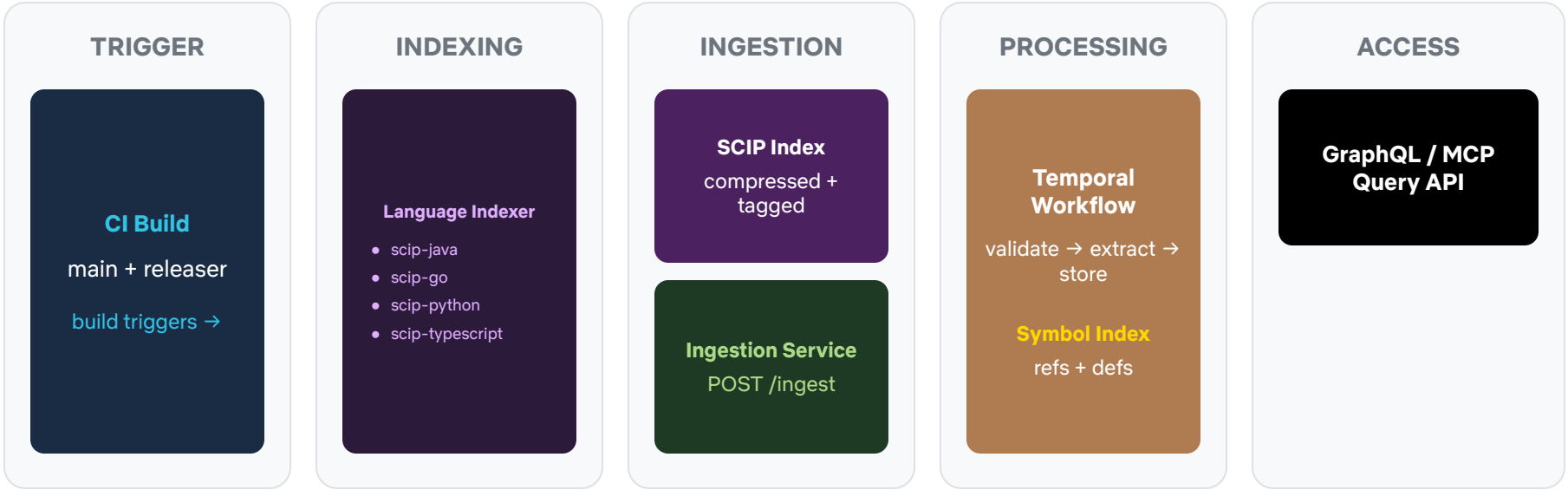


Image generated with https://ideogram.ai/

We built Quasar

Symbol-Level Indexing Pipeline



Images from https://scip-code.org/

Source Code Intelligence Protocol

Symbol-Level Indexing Pipeline

Quasar: Ingest • Store • Query

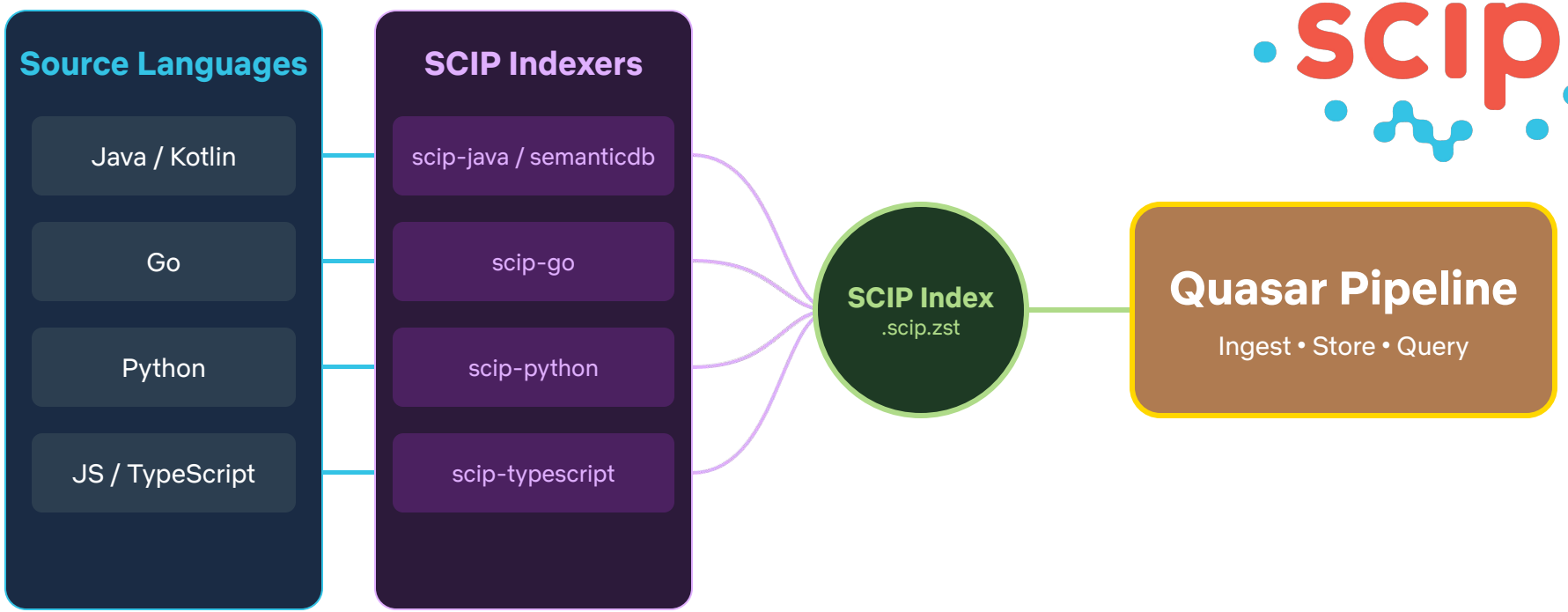


Image from https://scip-code.org/



Image generated with https://ideogram.ai/





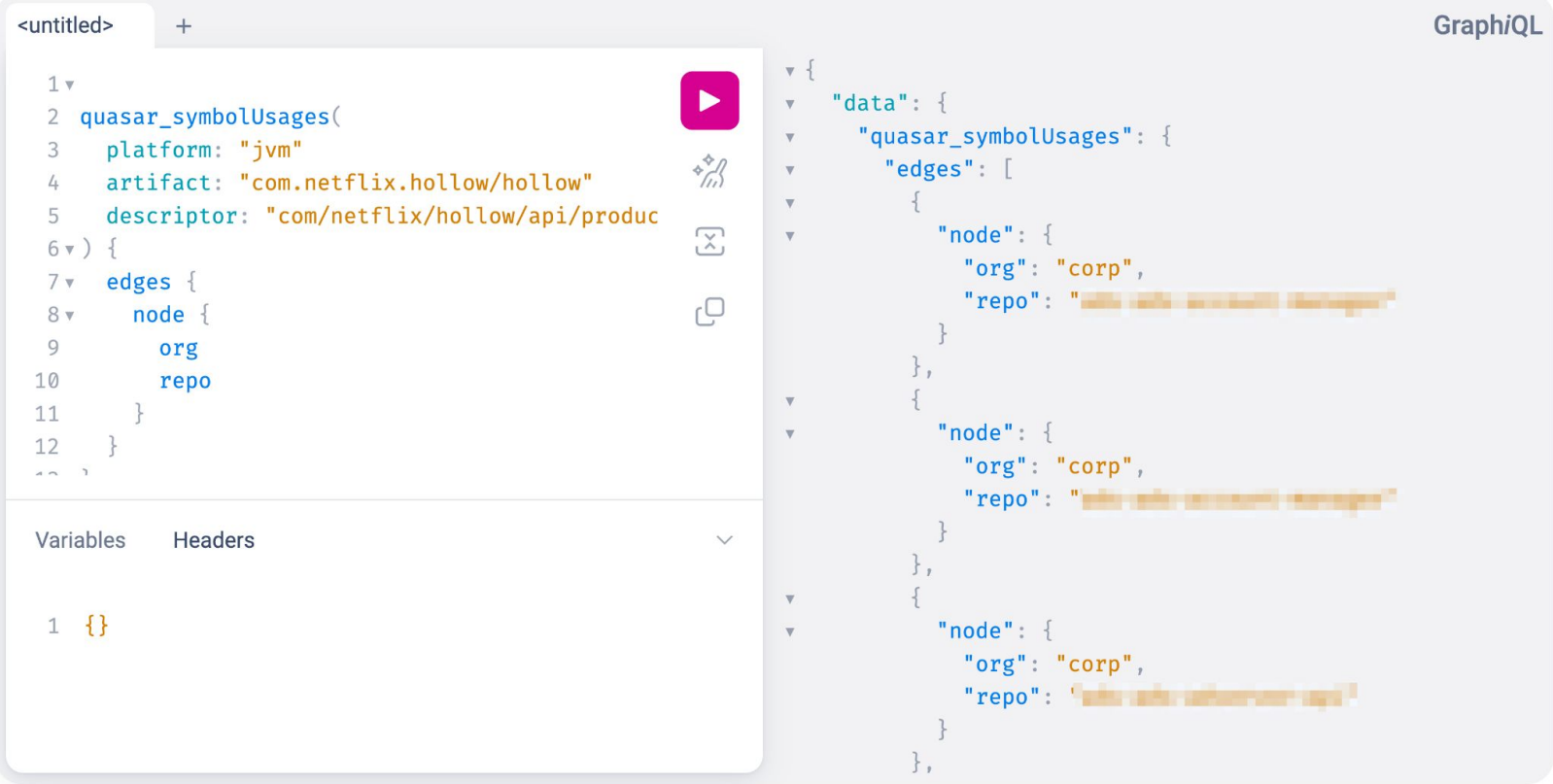
WHERE DOES @Authenticated APPEAR?



FLEET-WIDE. TYPE-RESOLVED. PERSISTENT.

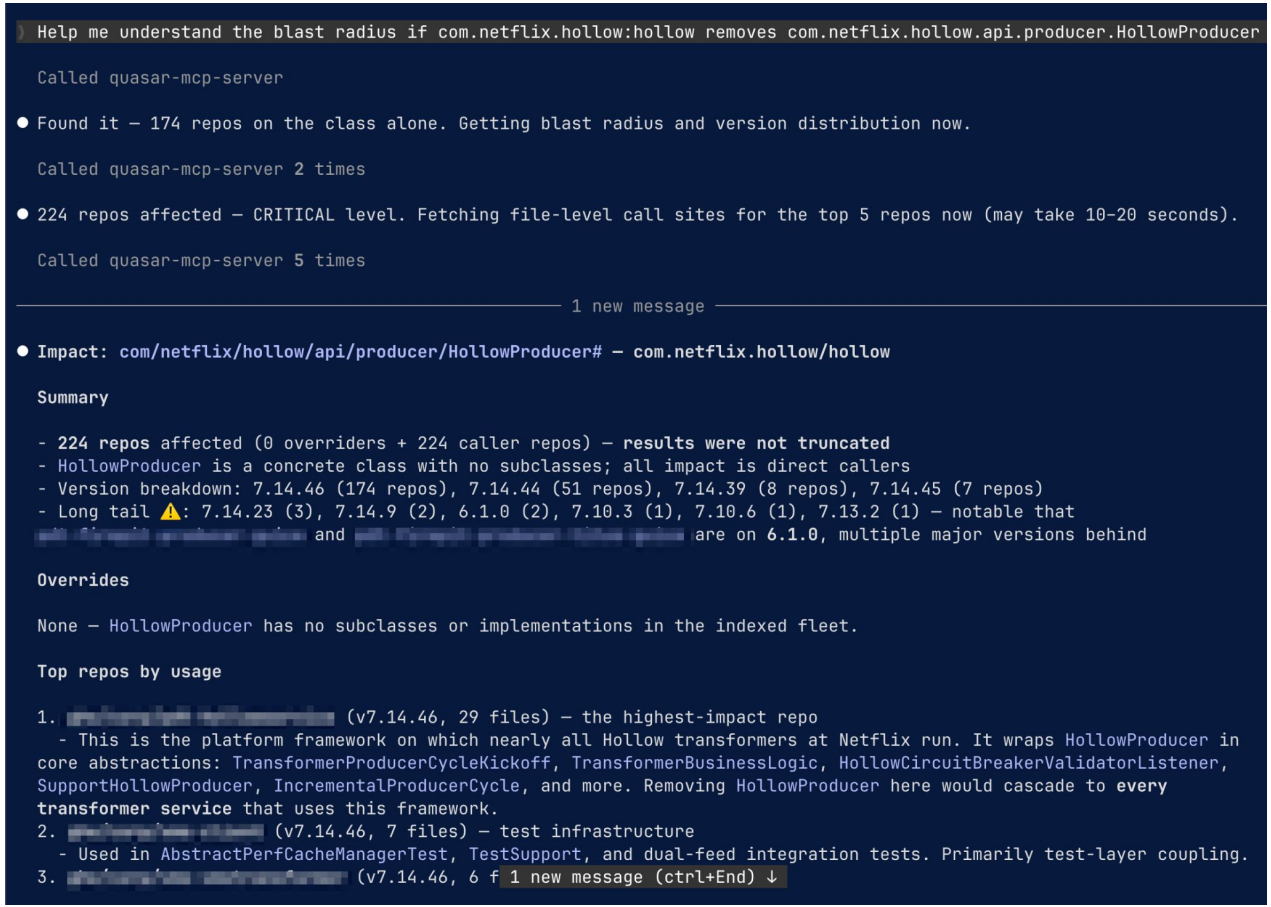
Image generated with https://ideogram.ai/

Programmatic access



Screenshots from internal tool

Of course, agents know this as well...



Screenshots from internal tool



VALIDATE BEFORE YOU RELEASE.

Consumer canary builds. Real consumers. Before GA.

Image generated with https://ideogram.ai/

Libraries canary pre-release validation

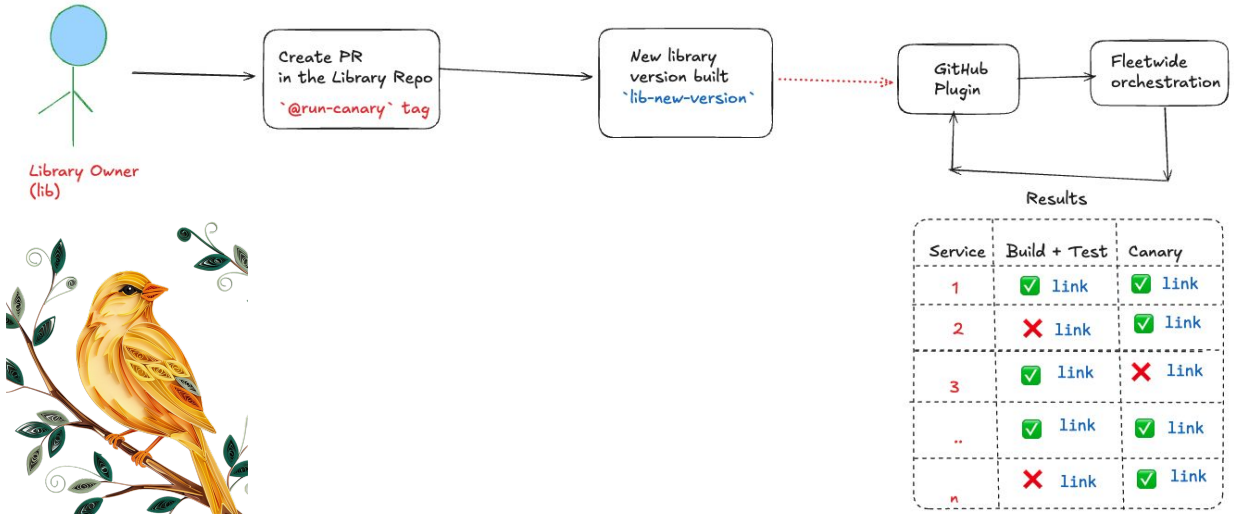
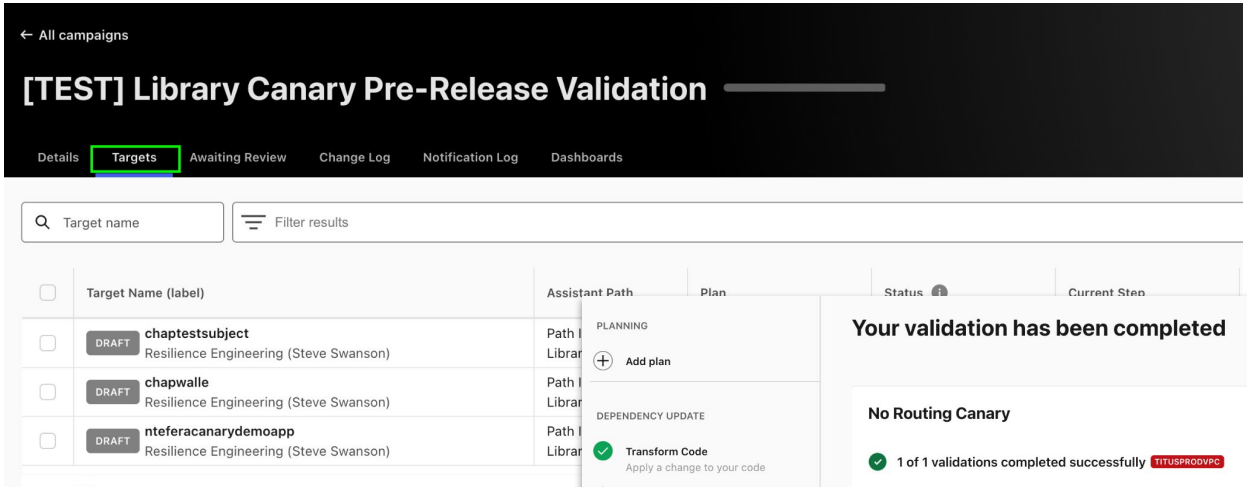
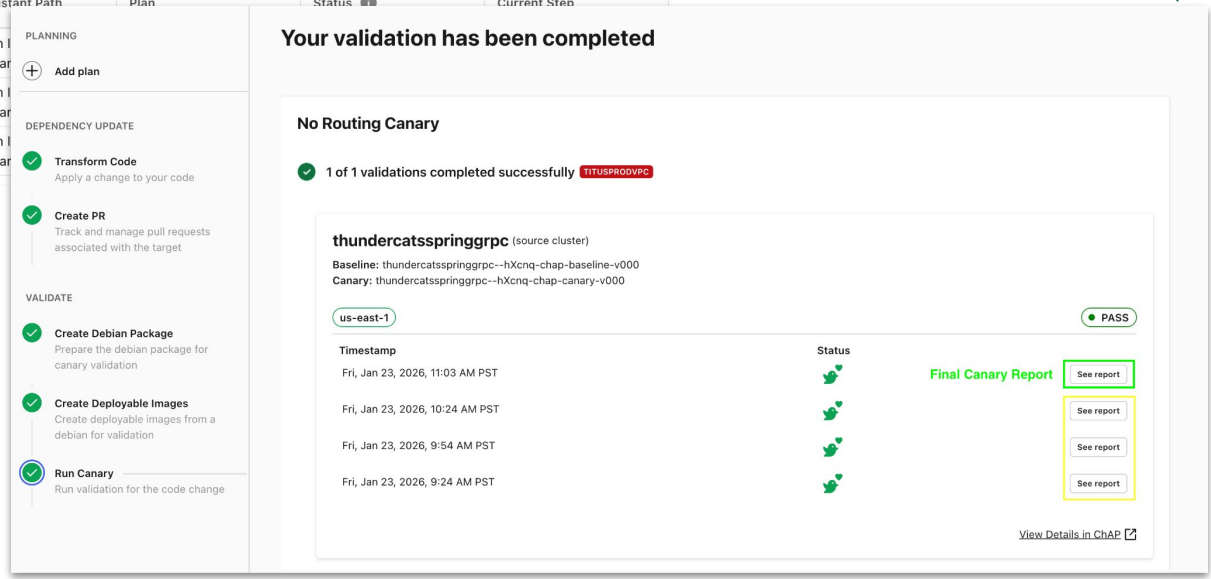


Diagram from internal documentation and generated by https://ideogram.ai

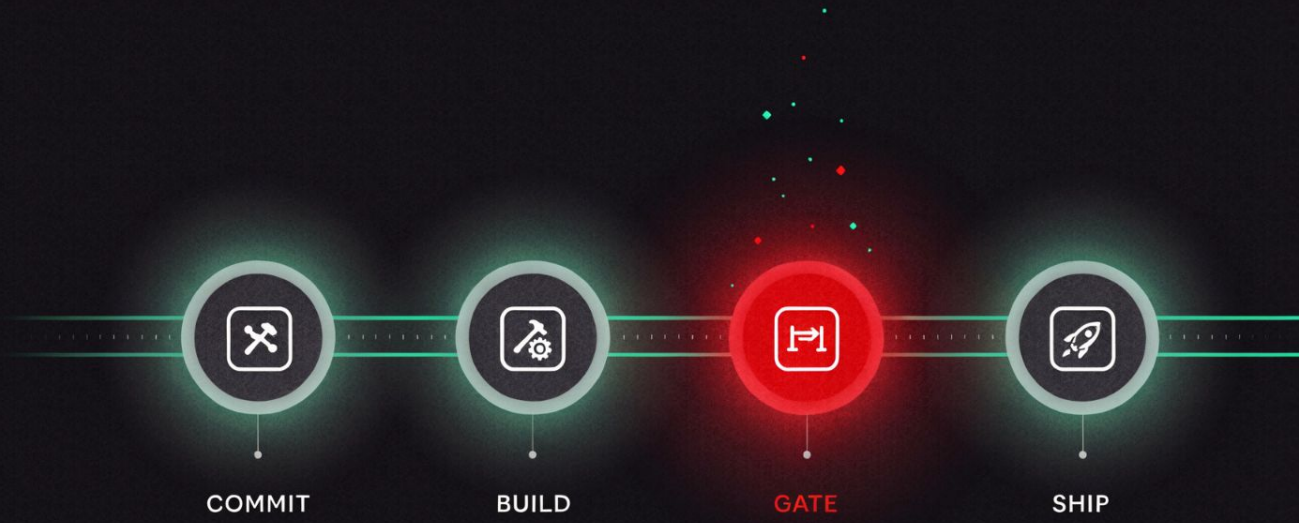
Libraries canary pre-release validation







Images from internal tooling



BUILT INTO THE PIPELINE

Image generated with https://ideogram.ai/

Improving the pull request review process



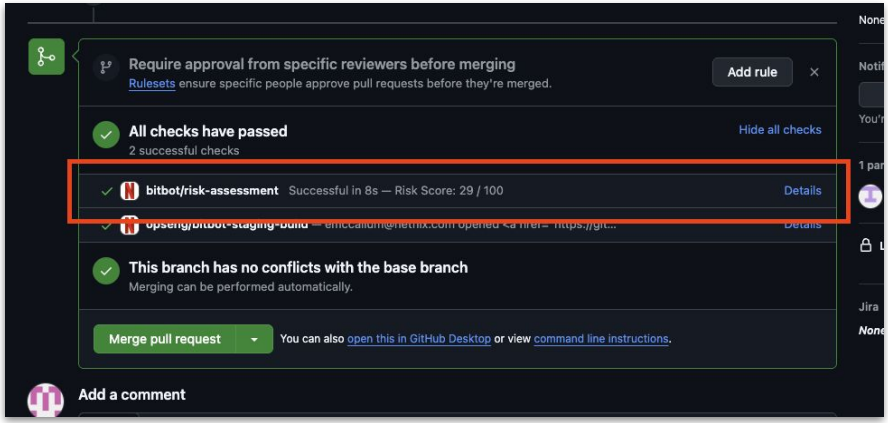


Image generated with https://napkin.ai/ and from 3rd party tooling run internally

Formalizing a delivery pipeline

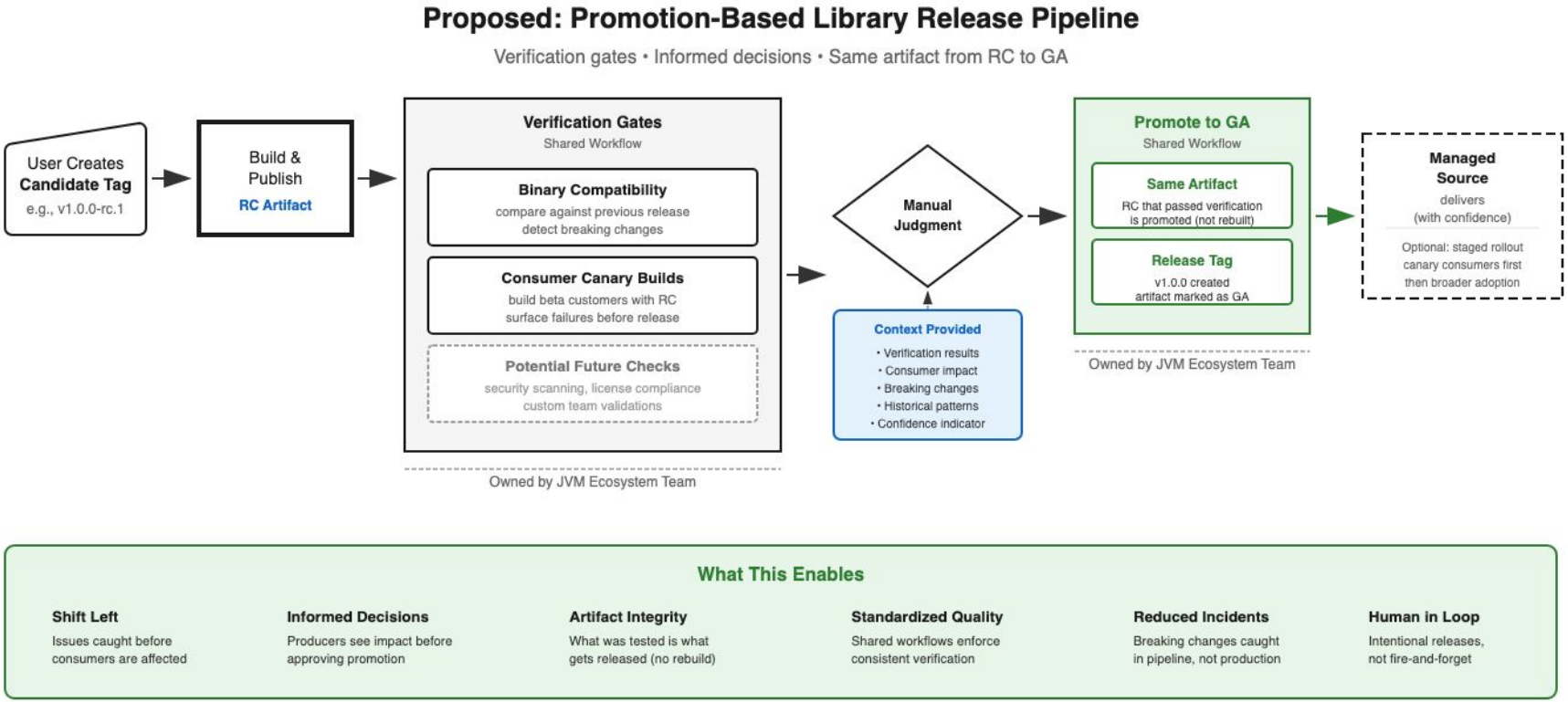


Image from internal documentation

RELEASE WITH CONFIDENCE.



Image generated with https://ideogram.ai/



AGENTS ON THE PAVED PATH.



Image generated with https://ideogram.ai/

THE ASK CHANGED.

Q3 2025 → 2026



SHOW ME THE DATA.

NOW ACT ON IT.

Image generated with https://ideogram.ai/

MCPs AND SKILLS FIRST.



BUILD THE AGENT INTERFACE BEFORE EVERYTHING ELSE.

Image generated with https://ideogram.ai/

The first deliverable is the one agents can use.

Skills!

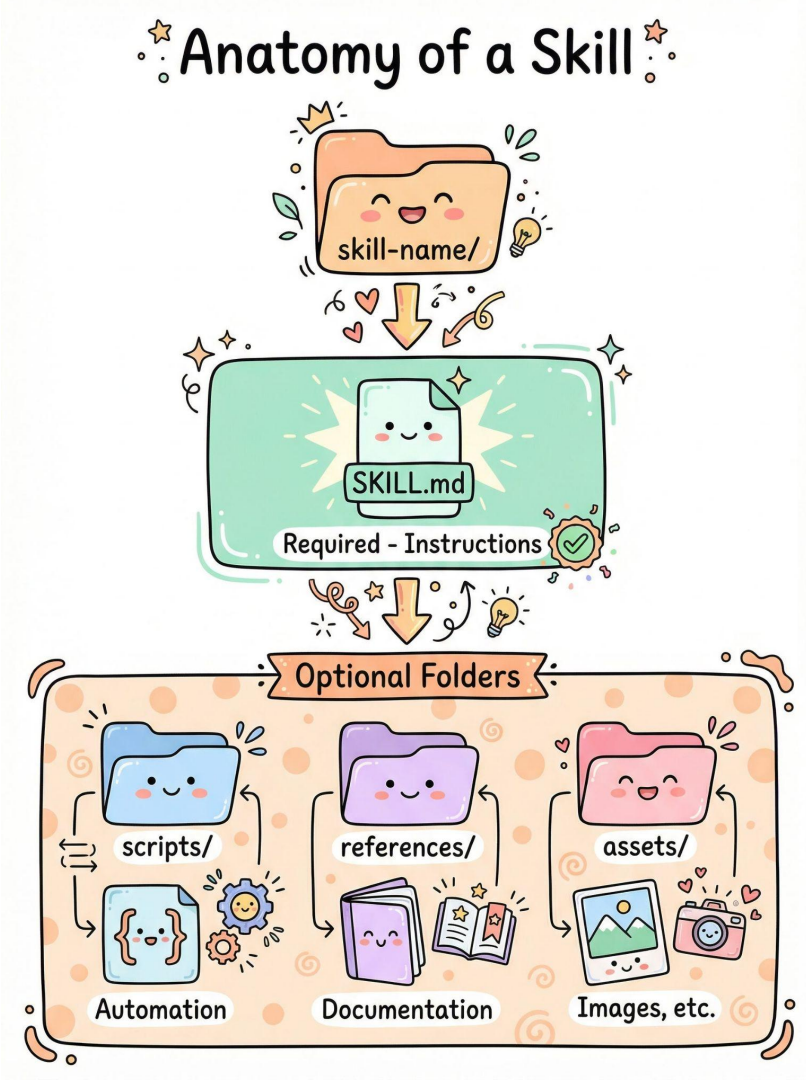


Image from https://blog.devgenius.io/agent-skills-explained-teaching-your-ai-assistant-new-tricks-c6ee66a632c4
Written by JP Caparas

Autonomous Agents



Image from internal developer tooling assets



Console / Otto / Tasks Alpha

Search tasks...

+ New Task

All Active | Needs Attention | Input Needed | Failed | Queued | Running | Done | Cancelled

Image from internal developer tooling assets



Console / Otto / Tasks Alpha

Search tasks...

+ New Task

All Active | Needs Attention | Input Needed | Failed | Queued | Running | Done | Cancelled

Task	Repository	Status	Updated
[redacted]	[redacted]	Input Needed	4 hours ago

Image from internal developer tooling assets

Console / Otto / Tasks Alpha

Search tasks...

+ New Task

All Active | Needs Attention | Input Needed | Failed | Queued | Running | Done | Cancelled

Task	Repository	Status	Updated
[redacted]	[redacted]	Input Needed	4 hours ago
[redacted]	[redacted]	Input Needed	Just now
[redacted]	[redacted]	Input Needed	6 minutes ago
[redacted]	[redacted]	Input Needed	17 hours ago
[redacted]	[redacted]	Input Needed	43 minutes ago
[redacted]	[redacted]	Input Needed	23 hours ago
[redacted]	[redacted]	Input Needed	23 hours ago
[redacted]	[redacted]	Input Needed	16 hours ago
[redacted]	[redacted]	Input Needed	6 days ago
[redacted]	[redacted]	Input Needed	6 days ago

Image from internal developer tooling assets



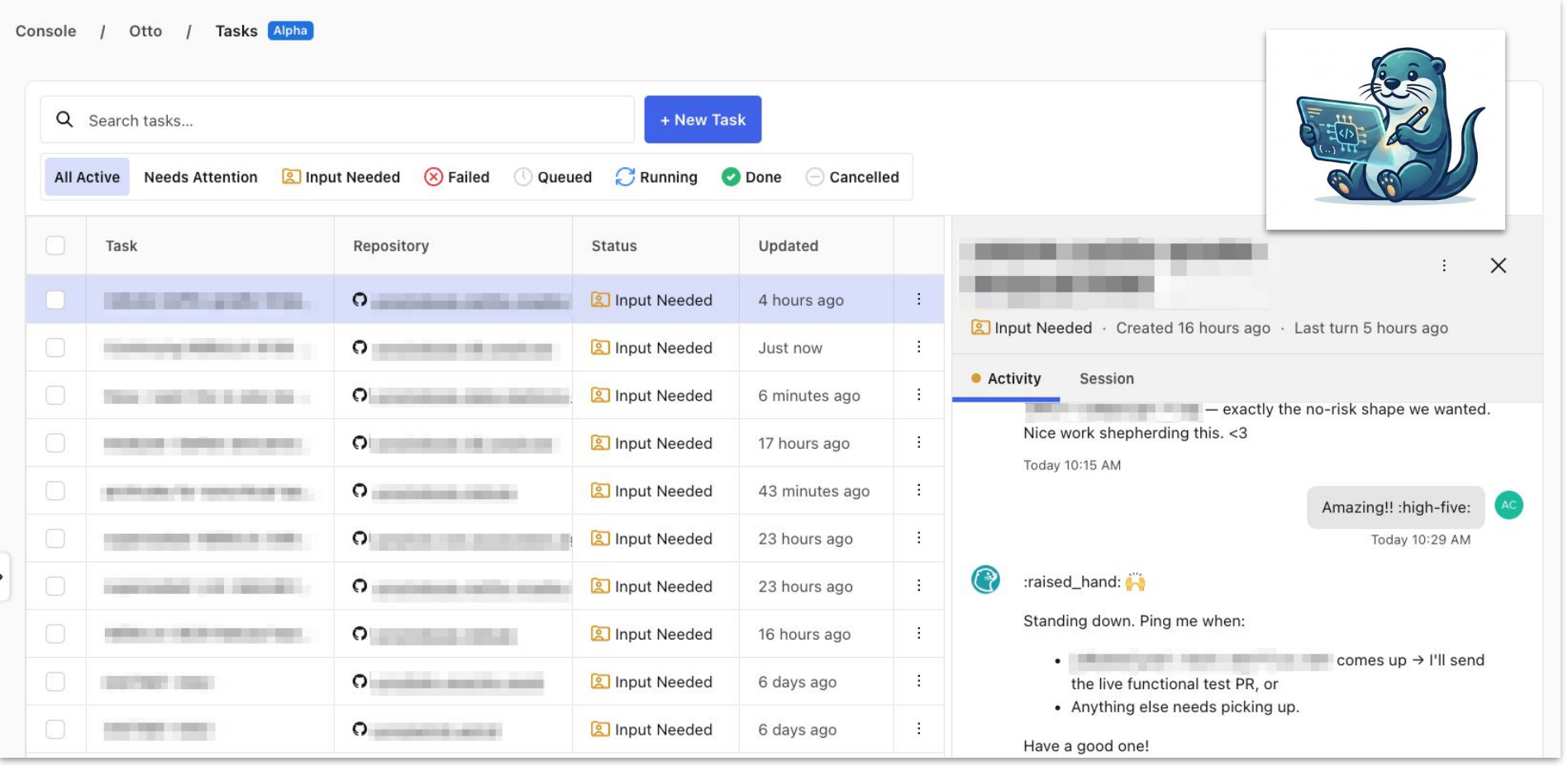


Image from internal developer tooling assets

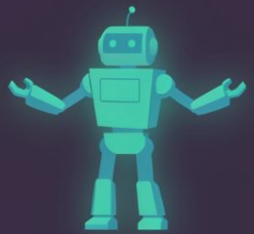
PRECISE CODE NAVIGATION BEYOND GREP



CONTEXT-AWARE MIGRATION PLANNING



SECURITY TRIAGE AT FLEET SCALE



CONTEXT WINDOW EFFICIENCY



Image generated with https://ideogram.ai/

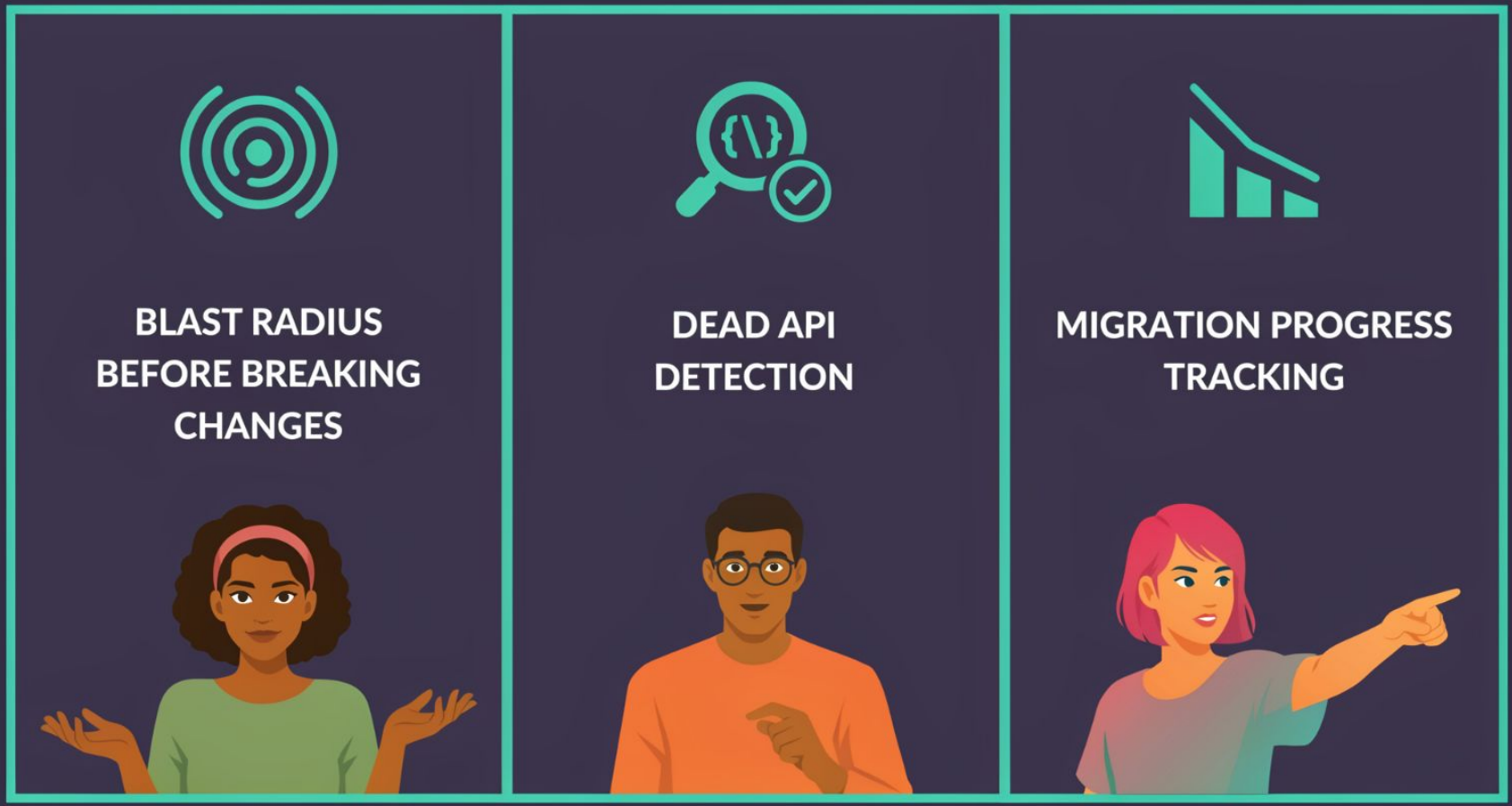


Image generated with https://ideogram.ai/



REACHABILITY, NOT JUST CLASSPATH PRESENCE





LIFECYCLE ENFORCEMENT



Image generated with https://ideogram.ai/

PEOPLE DECIDE.
TOOLS GUIDE.

The road keeps them honest.



Image generated with https://ideogram.ai/


WADDING
IT WORKED.
THE SAME LIBRARY. A NEW MAJOR VERSION. NO INCIDENTS.
Image generated with https://ideogram.ai/



~40,000 LIBRARIES.

ALL WITH STABILITY SIGNALS.

We know. For all of them.

Image generated with https://ideogram.ai/

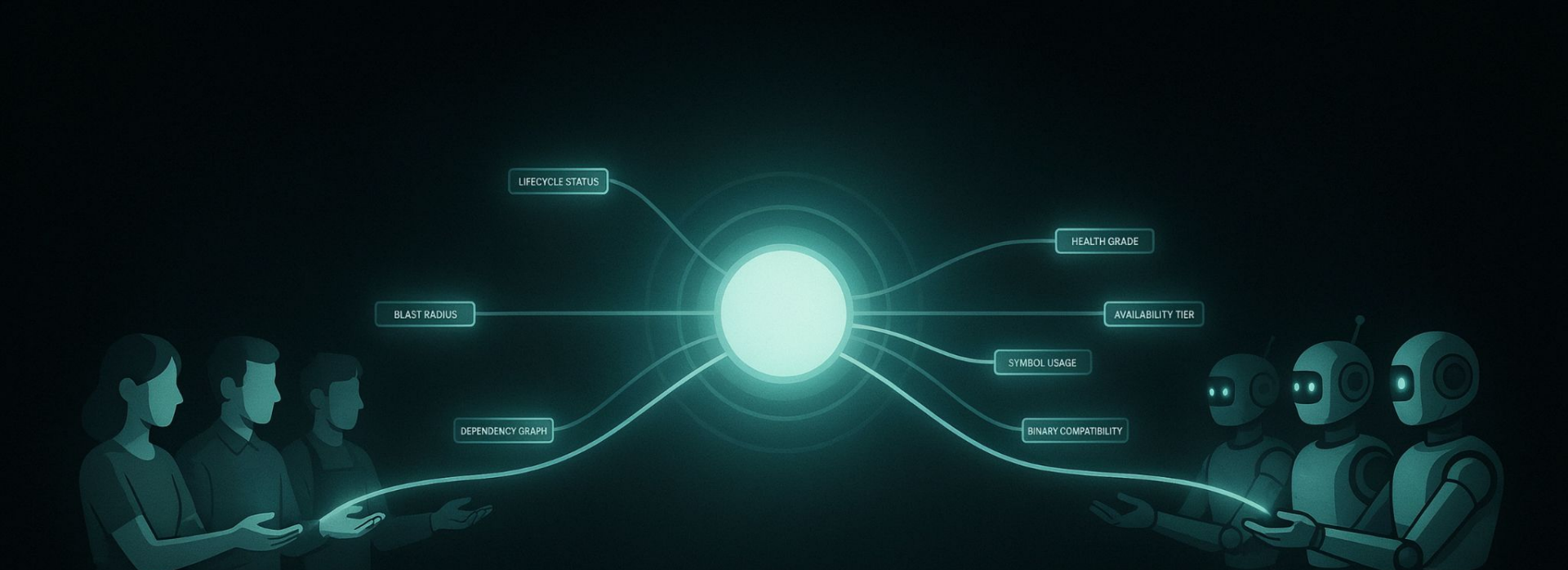


EVERY NEW LIBRARY.

STARTS HERE NOW.

Image generated with https://ideogram.ai/

Humans or agents. Designed in from day one.



ONE SOURCE OF TRUTH.
FOR HUMANS AND AGENTS ALIKE.

Lifecycle. Blast radius. Health. Compatibility. All queryable.

Image generated with https://ideogram.ai/



WHAT WE'RE STILL FIGURING OUT.

Image generated with https://ideogram.ai/

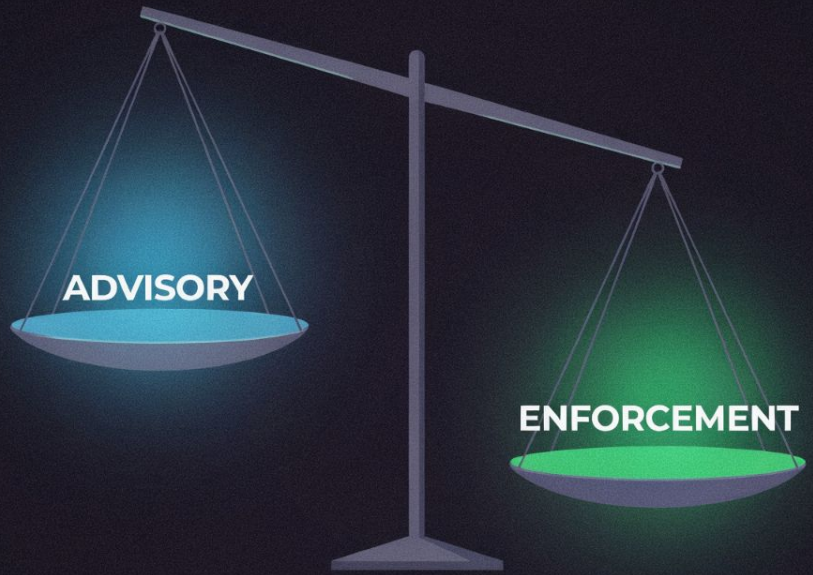


MAINTENANCE VS. ABANDONMENT

WHEN BOTS MAINTAIN.

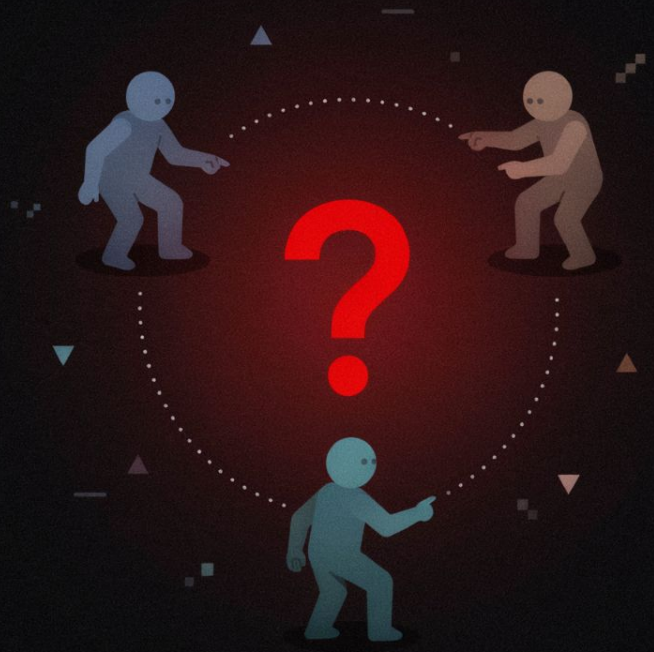
Is this library maintained... or just maintained-looking?

Image generated with https://ideogram.ai/



WHEN DOES ADVISORY BECOME ENFORCEMENT?

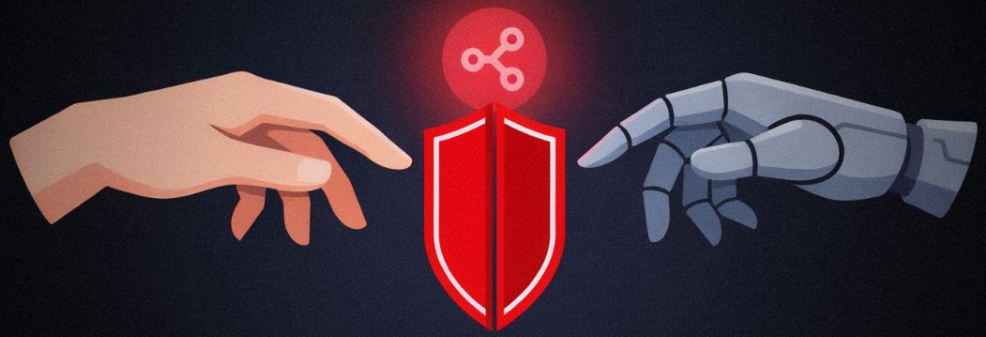
Image generated with https://ideogram.ai/



THE AGENT WAS RIGHT. THE SIGNAL WAS STALE.

WHO IS ACCOUNTABLE?

Image generated with https://ideogram.ai/



AUTOMERGING IS TABLE STAKES.

SAME RISK. SAME RULES.

Image generated with https://ideogram.ai/


TAKEAWAYS
Image generated with https://ideogra

Takeaways

1

Treat a library release like an application production change.

If your apps have a safety net and your libraries don't, you have the gap.

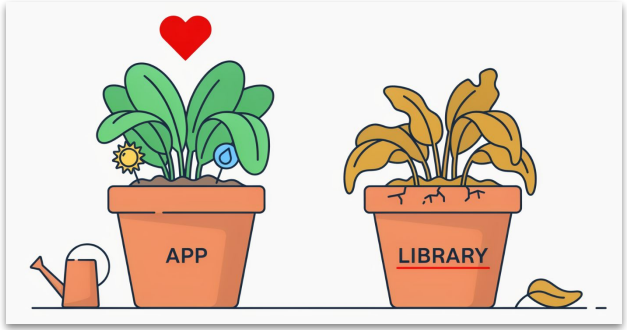


Image generated with https://ideogram.ai/

Takeaways

2

Many personas are involved: library owners, consumers, platform providers and now AI agents.

Each has different needs, trust levels, and risk tolerances.



Image generated with https://ideogram.ai/

Takeaways

3

AI doesn't fix the gap. It exposes it.

An agent running tag/publish/hope at scale is more dangerous than a human doing it slowly.

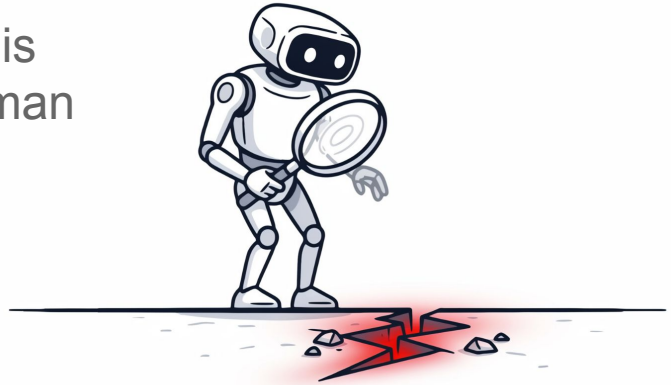


Image generated with https://ideogram.ai/

Takeaways

4

Build machine-readable signals first.

Agents can only be as safe as the signals they reason over. Stale signals, bad decisions.

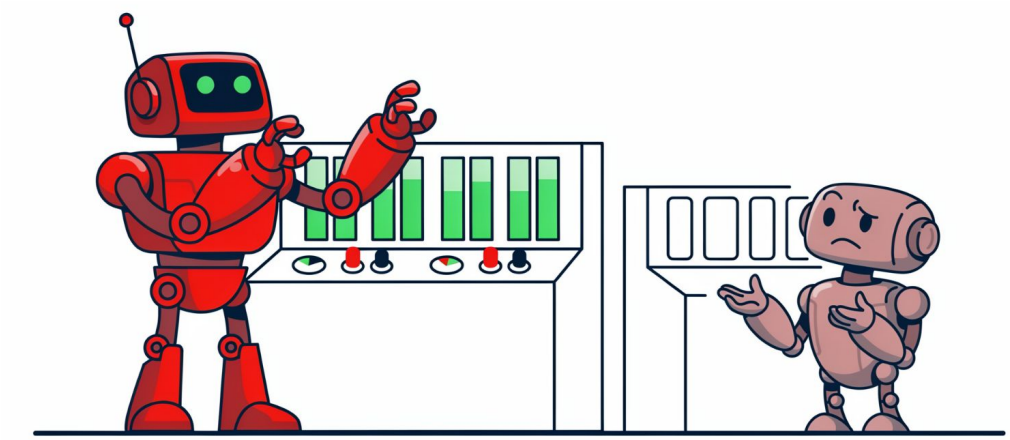


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QUESTIONS?

ASK US IN THE APP



Roberto Perez Alcolea
rperezalcolea@netflix.com

Download on the App Store

GET IT ON Google Play



Aubrey Chipman
achipman@netflix.com

PLEASE RATE OUR SESSION



Roberto Perez Alcolea
rperezalcolea@netflix.com

Download on the App Store

GET IT ON Google Play



Aubrey Chipman
achipman@netflix.com

Thank you!



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rperezalcolea@netflix.com

Aubrey Chipman
achipman@netflix.com

