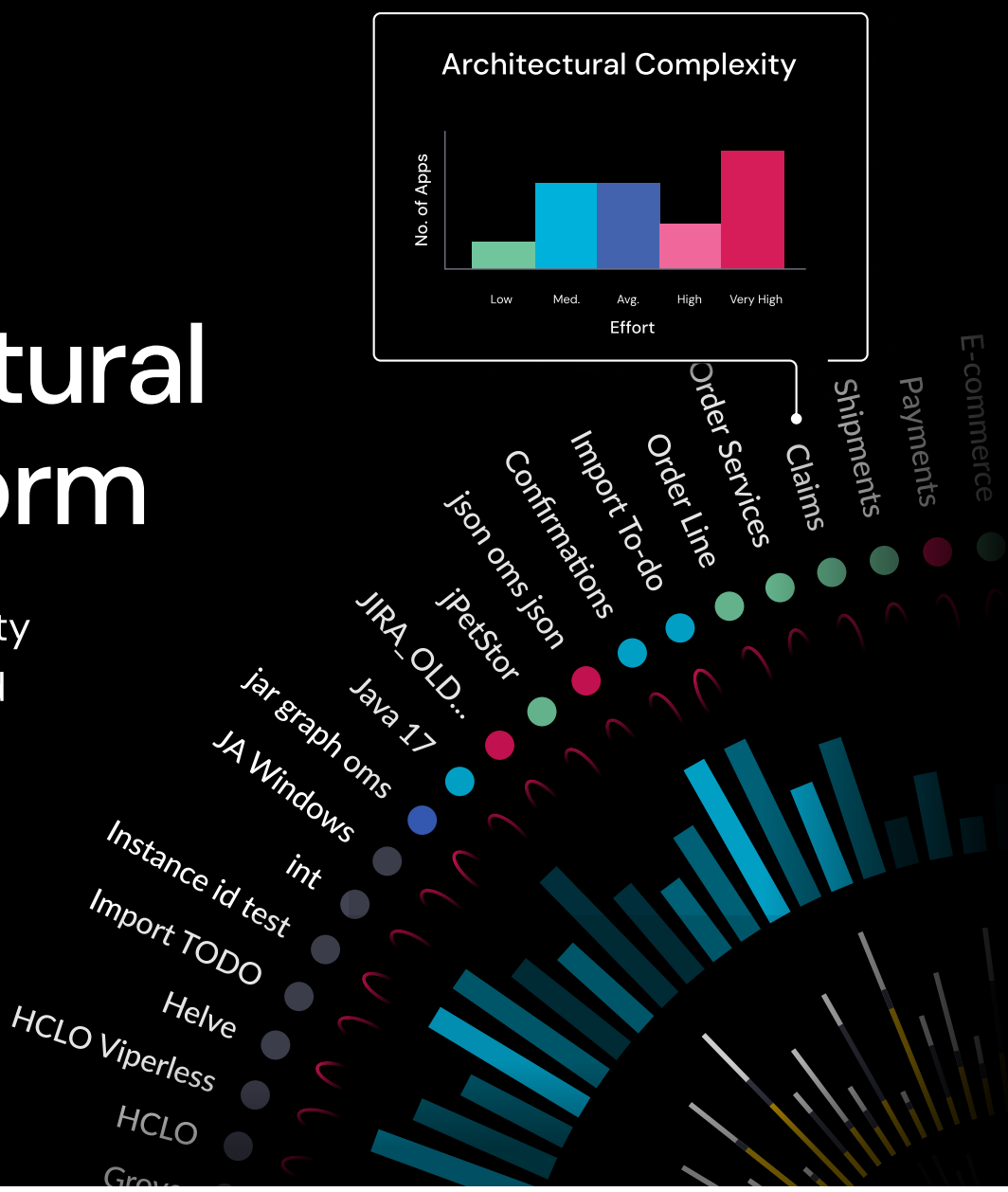
vFunction

vFunction architectural observability platform

vFunction is an AI-driven architectural observability platform that accelerates engineering velocity and boosts application scalability and resiliency by continuously measuring, prioritizing, and remediating technical debt and complexity in your applications.



The challenge — debilitating technical debt

Today's software and engineering teams are under tremendous pressure to constantly release features, integrate with new technologies, and build competitive products. The race to stay competitive has resulted in growing software complexity and technical debt, totaling ~$1.52 trillion.

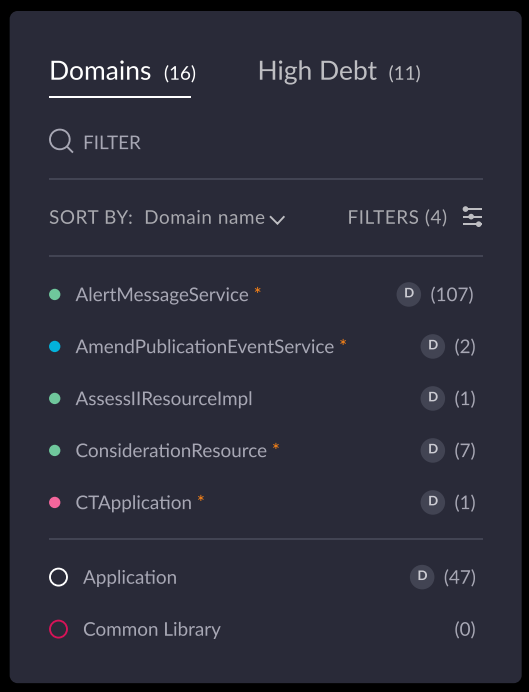
Although technical debt may stay dormant for a time, it increasingly leads to catastrophic outages. Notable examples include the Southwest Airlines holiday meltdown, Meta's six-hour outage affecting Facebook, Instagram, WhatsApp, and countless others — from McDonalds to Greggs bakery chain.

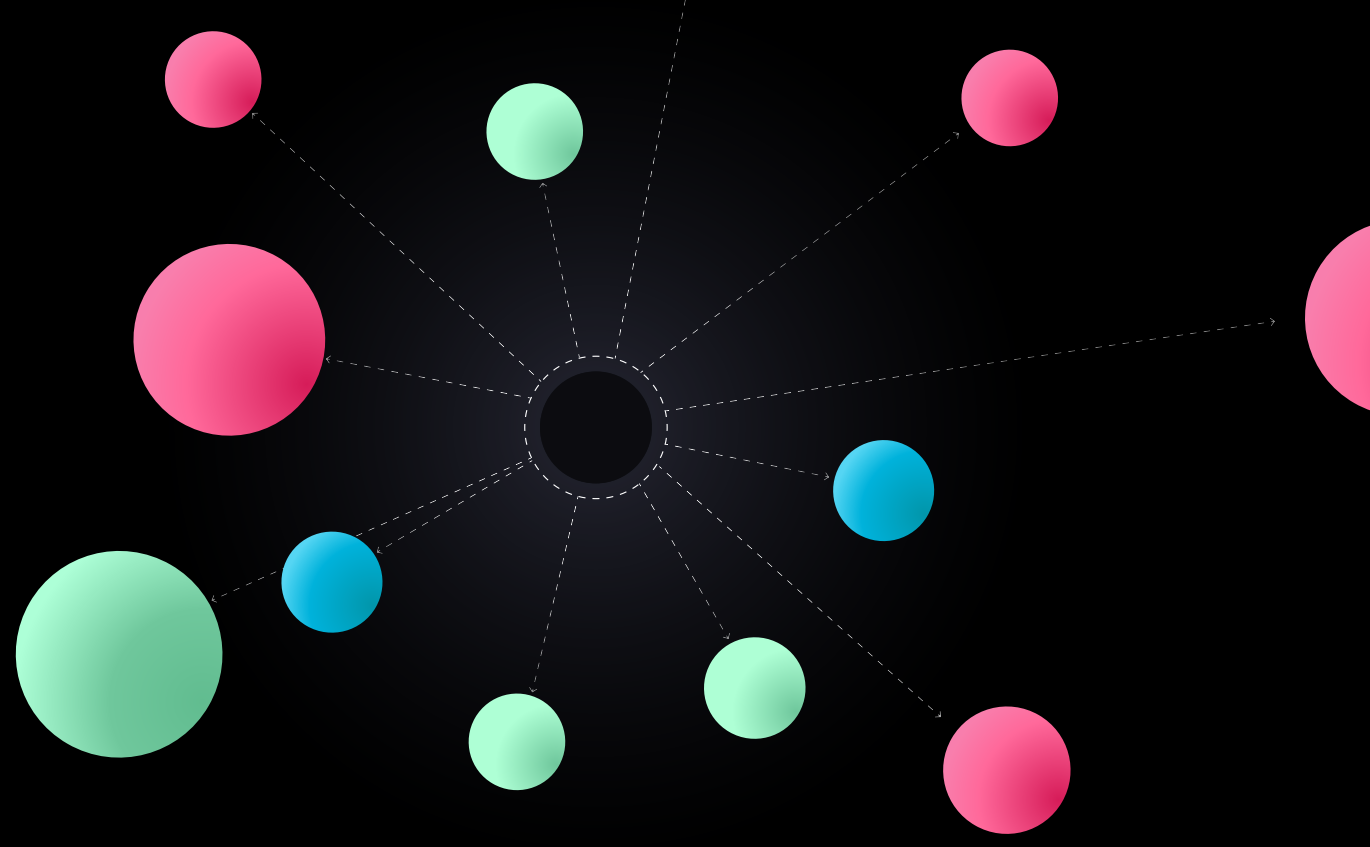
Without regular remediation or visibility into software architecture, technical debt will dominate apps, impact resiliency and scalability, and debilitate teams who need to deliver fast to survive.

80%

According to Gartner®, "By 2026, 80% of technical debt will be architectural technical debt."

*Source: GARTNER, Measure and Monitor Technical Debt With 5 Types of Tools, Tigran Egiazarov, Thomas Murphy, 27, February 2023. GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.





The solution — architectural observability

vFunction developed the first AI-driven architectural observability platform to continuously observe and reduce technical debt in applications. Unlike traditional observability tools, which focus on symptoms like application performance and outages, architectural observability allows teams to 'shift left' and address the root causes of technical debt, preventing performance issues before they arise. By analyzing application health and providing actionable steps and automation aligned with business goals, vFunction empowers organizations to accelerate engineering velocity and enhance application resilience and scalability.

What is architectural observability?

Architectural observability is the ability to analyze an application statically and dynamically and understand its architecture, observe drift, and find and fix architectural technical debt. By fixing these issues, architects and engineering teams can directly address application resiliency and scalability while improving engineering velocity.

From five to 1,000 apps

In a recent study* of technology leaders and practitioners, nearly 40% identified the lack of visibility into architecture as a top challenge. By providing real-time visibility into technical debt across the entire application portfolio, vFunction enables software engineering teams to shift left and proactively measure, manage, and remediate technical debt from release to release.

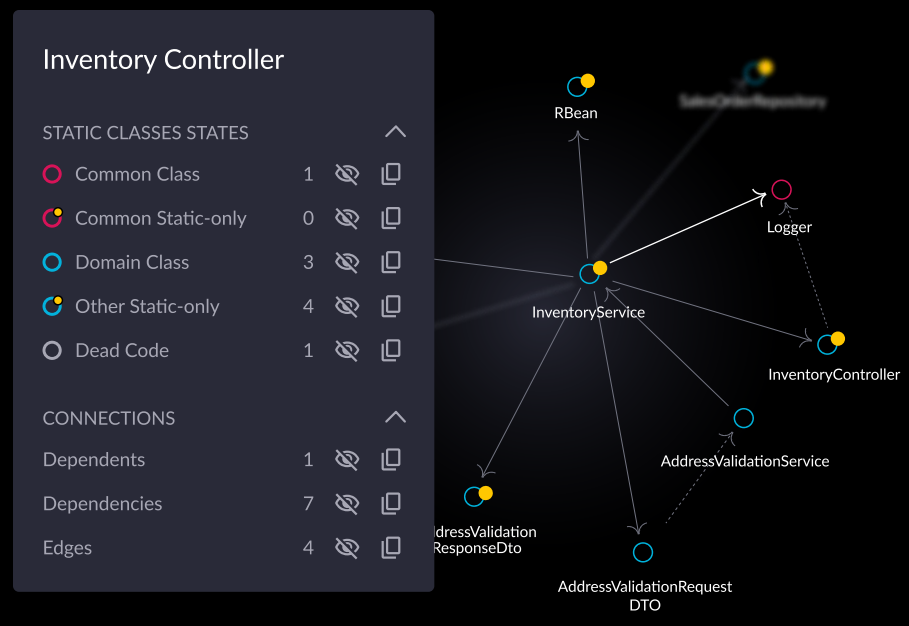
Assessing a monolithic application's modularity, or a distributed application's complexity, to address the higher impact and harder-to-solve architectural issues helps teams determine which applications to tackle first.

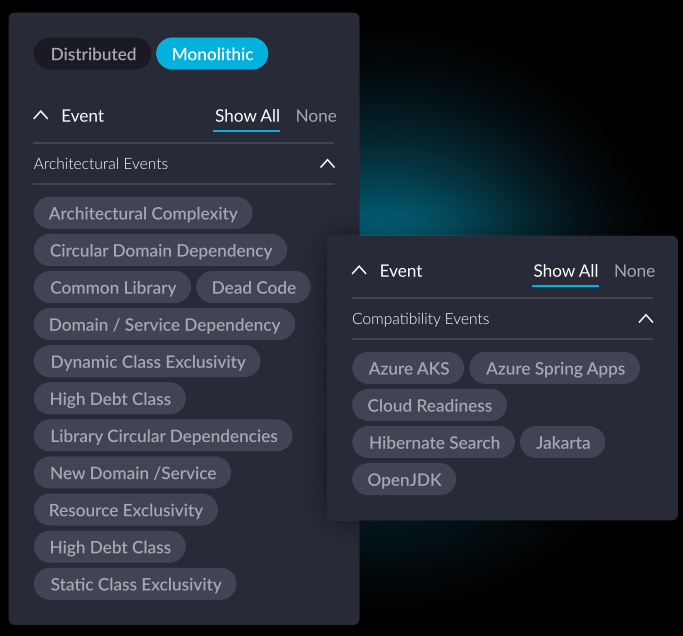
100

(Showing 100 Largest Apps of 1,000 Total)

AI-powered analysis

vFunction holds patented methods of **static analysis of binaries and dynamic analysis**, leveraging AI to automatically untangle unnecessary dependencies in monolithic and distributed architectures, across business domains, services, database calls, classes and other resources.





Target technical debt at its source

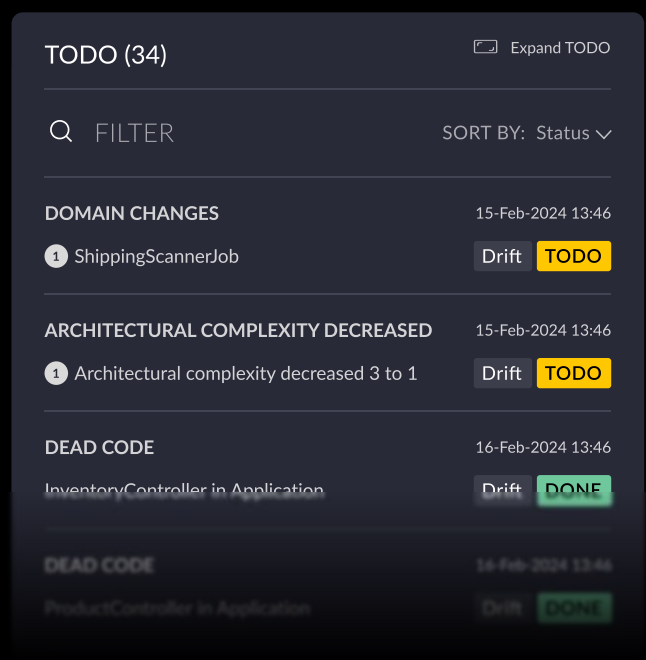
To address accumulating technical debt, vFunction continuously tracks architectural events, such as new dependencies, domain changes, and increasing complexity over time. The vFunction platform measures an application's technical debt using 24 uniquely defined architectural issues that objectively impact resiliency, scalability, engineering velocity, and cloud readiness.

Monitoring critical architectural events allows architects and engineers to pinpoint areas for optimization and create modular business domains and less complex distributed applications.

Actionable to-do list

From its analysis, vFunction generates a prioritized, actionable to-do list based on organizational business goals, including increasing application scalability and resiliency, improving velocity, and supporting cloud readiness. It offers automated remediation using its proprietary automation and LLM-based AI.

Whether five apps or one thousand, vFunction is simple and secure to deploy at scale.



What is the vFunction Assistant?

vFunction Assistant serves as a guide for development teams to detect and remediate a broad range of architectural issues, while boosting productivity through intelligent task automation. It provides prescriptive guidance, breaking down complex refactoring objectives into consumable, bite-sized steps.

Any architecture. Any language. Any app.

Many enterprises employ diverse application architectures and programming languages. Whether transitioning from monolithic to distributed applications, further decomposing existing microservices, or managing complexity in a distributed architecture, vFunction provides comprehensive support across the architectural spectrum.

Why use architectural observability?

Monolithic Applications

JAVA .NET

Distributed Applications

OpenTelemetry

JAVA .NET PYTHON RUBY GO NODEJS C++ PHP++

Monolithic applications lack modularity and suffer from excessive interdependencies, leading to a “ball of mud.”

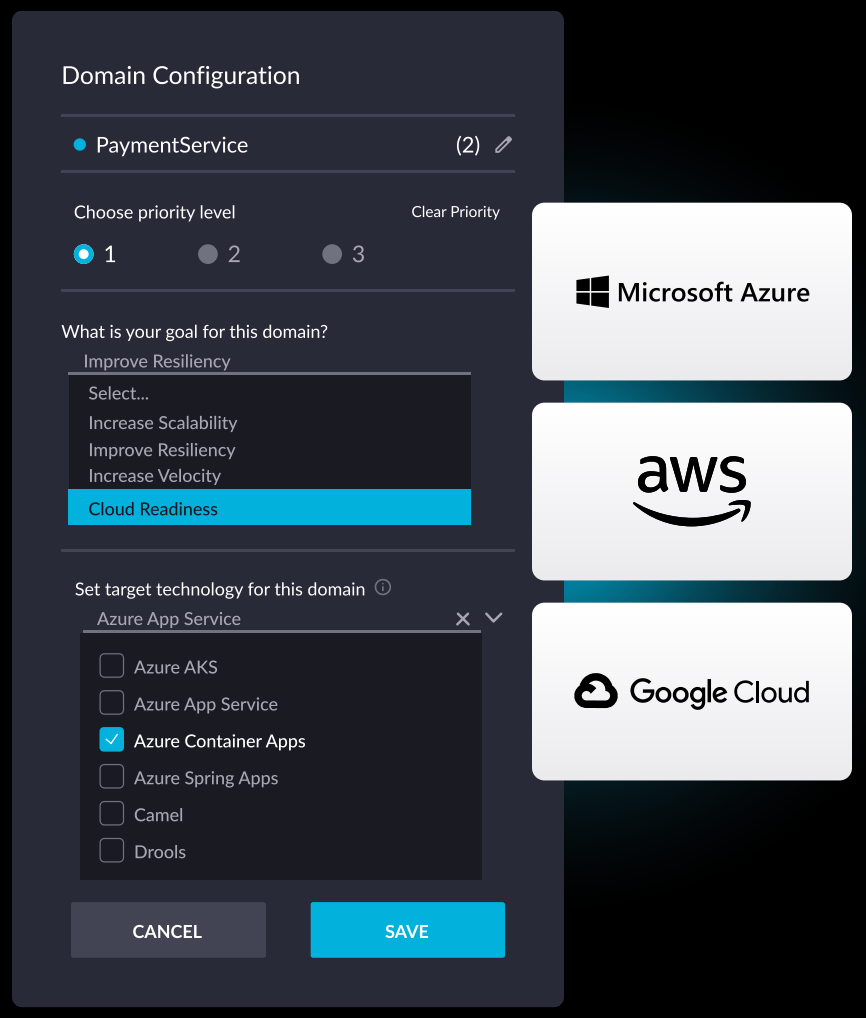
Microservices are often overly complex and lack clarity on component dependencies, which slows teams down and limits resiliency.

To the cloud!

vFunction partners with the leading cloud providers to modernize applications. Use vFunction architectural observability to modularize applications, transform monoliths to microservices, simplify your distributed architecture, and modernize legacy software to take advantage of the most advanced cloud services.

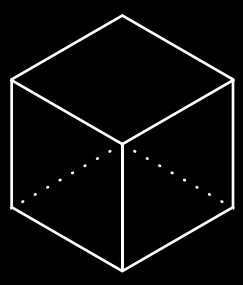
Cloud readiness

As a cloud-agnostic platform, vFunction provides tailored guidance and recommendations for your specific target environment when migrating to the cloud, helping teams extract domains and make applications cloud-ready.



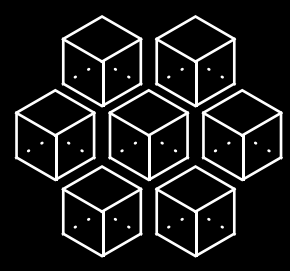
Tech debt in monoliths and microservices

Monoliths



VS.

Microservices



2x

While both monolithic and microservices architectures face complexity and technical debt, monolithic applications are more than twice as likely to struggle with engineering velocity, scalability, and resiliency compared to microservices.

How customers use vFunction

Want to refactor

Where do you start? Measure. Prioritize. Manage. Automate.

Already refactoring

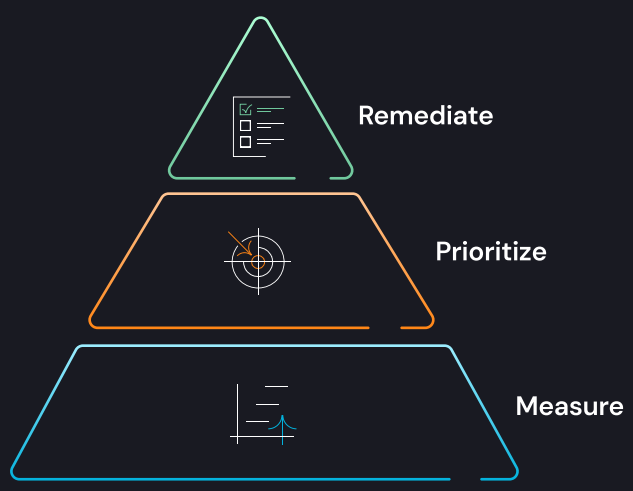
Are you progressing toward your goals? Prioritize. Manage. Automate.

Cloud migration

Are your apps cloud ready? Do you want to transform them to cloud-native? Manage. Automate.

Already cloud-native

How do you manage microservices complexity? Prevent drift? Remove complexity?



Technical debt maturity model

Help leadership, application owners, developers and SRES

1. **Measure.** Understand the gravity of technical debt before reaching the "boiling point."
2. **Prioritize.** Dedicate resources to address the most critical issues and align with business needs.
3. **Remediate.** Continuously address technical debt as part of the SDLC.

Delivering a competitive edge for customers

By continuously modularizing applications and remediating technical debt, vFunction's architectural observability platform enhances application resiliency and scalability, while accelerating engineering velocity. This helps customers expedite their journey to a cloud-native architecture and optimize applications once there.

3x

Increase in release frequency

INTESA SANPAOLO

90%

decrease in deployment time

TREND MICRO

25%

reduction in regression testing

correla

Supporting 10X scale

"I wish we had vFunction when I started at Turo. This kind of architectural observability gives us a much better understanding into our application and helps us with decision making as we move forward."

TURO

Adam Safran

Senior Engineering Manager at Turo

Reference

*vFunction Research Report of 1,000 engineering leaders and practitioners, "Microservices, Monoliths, and the Battle Against $1.52 Trillion in Technical Debt," 2024

About vFunction

vFunction, the pioneer of AI-driven architectural observability, delivers a platform that increases application resiliency, scalability, and engineering velocity by continuously analyzing, prioritizing and remediating technical debt and complexity in applications. Global system integrators and top cloud providers partner with vFunction to assist leading companies like Intesa Sanpaolo and Trend Micro in discovering their architecture and transforming applications to innovate faster and change their business trajectory. vFunction is headquartered in Menlo Park, CA, with offices in Israel, London, and Austin, TX.

To learn more, visit www.vfunction.com.