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On the Radar: vFunction simplifies and automates the shift to continuous modernization

Summary

Catalyst

Resolving the mountains of technical debt piled up within large monolithic applications is crucial for enterprises to unlock their agility, adaptability, and innovation. Many applications that had been rewritten in Java in the late 1990s to early 2000s need to be modernized and re-platformed to enable them to become cloud-ready, agile, and scalable. vFunction offers an end-to-end platform capable of assessing the accumulated technical debt within these applications, evaluating the risks and cost involved in modernization, and providing an AI-driven solution to extract business logic and move it to microservices that can then be moved to the customer's chosen cloud.

Omdia view

Modernizing Java-based applications and architecture is easier said than done. Many enterprises have to balance the dual pressures of managing complex monolithic applications, and the siloed data contained within them, with the demand for speed to market for new digital products and services. The adaptability to cope with rapidly changing business requirements is a must-have as traditional businesses face disruption from digital upstarts that can more easily leverage new technology. However, most modernization programs fail to deliver desired outcomes because of the trade-offs made to avoid the risks and costs involved, and result in "putting makeup on a pig" (as one Omdia customer termed a failed program). Many organizations have spent so much money on these apps that they are hesitant to spend more, leading to

what can be termed as "sunk-cost syndrome." No organization has addressed technical debt in its entirety, and this often compromises current and future modernization and transformation initiatives.

vFunction's platform consists of two solutions – Assessment Hub and Modernization Hub – which can either be licensed separately or as one platform. The solutions analyze an application to provide a visual image of the dependencies and service interactions, data libraries and how they are called, and how much technical debt resides in the application. This allows architects to use an iterative design process to understand how changing one service impacts another both upstream and downstream. It also allows them to make informed decisions about which services to combine, which to retire, and how to turn them into microservices that will ultimately allow the legacy app to be retired. The platform prescribes an initial set of domain-based services that can then be refined and extracted as independent microservice code projects through the vFunction platform. The overall impact is significant reduction in time, effort, risk, and cost of modernization, which is the need of the hour for enterprises accelerating their transformations. Moreover, modernization needs to be a continuous "state of being" for the enterprise rather than a set of start-stop projects. Tools such as vFunction's platform make the shift to continuous modernization simpler, scalable, visible, less risky, and more manageable.

Why put vFunction on your radar?

Enterprises at any stage of the technology modernization journey should put vFunction on their radar as its platform provides the ability to automate much of the process of transforming complex monolithic applications into microservices. Enterprises can make informed decisions about which applications and services to modernize first, improve engineering velocity and application scalability, and leverage the full potential of the cloud across their business. Using solutions such as vFunction's platform can allow enterprises to continuously monitor the health of their applications, move services and data to the cloud more efficiently, reduce technical debt in a scalable way, and adopt a continuous modernization approach.

Market context

Coping with the reality of an ever-changing digital economy requires traditional organizations to build agility at the core of the business. Underlying platforms and applications must be mobile, or rather "any device" enabled and deliverable via the cloud must provide the flexibility, scalability, and agility needed. Legacy modernization plays a critical role in this endeavor by helping enterprises identify pockets of redundancy and relevance within existing systems of record and by providing options to renew and refresh core applications, thereby providing a stable base on which to build next-generation software.

For digital technologies to deliver their full potential, the core applications (most of which are legacy systems of record) must be revitalized since organizations depend on them for critical operations and data. Most modernization initiatives continue to focus on cost reduction and providing point solutions for the most immediate needs of the organization, but do not address the underlying technical debt within legacy systems that hampers the ability to develop a truly adaptable enterprise.

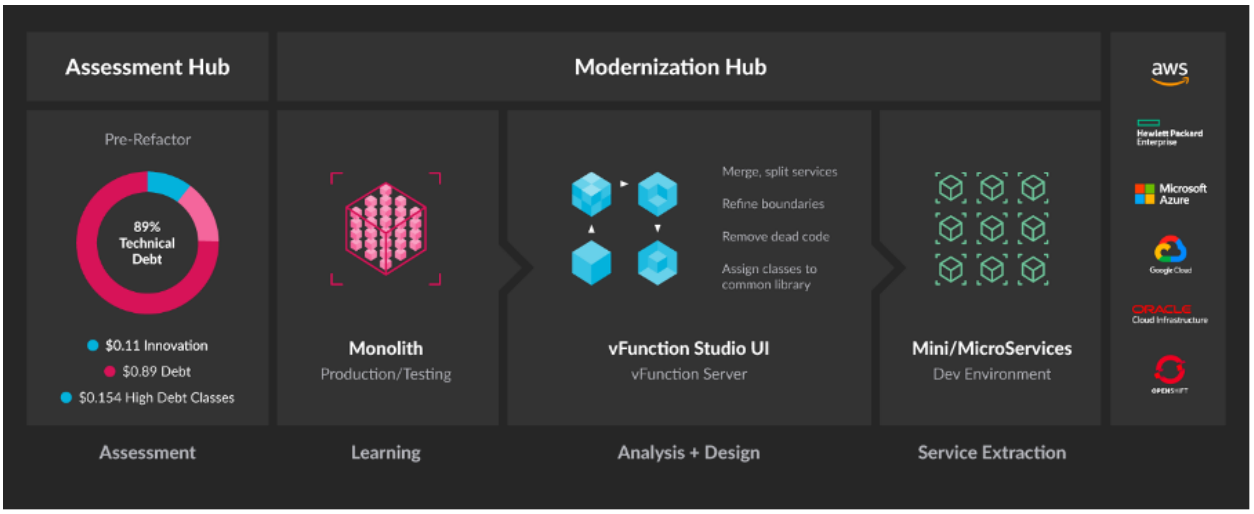
Omdia has seen similar tools from systems integrators (SIs) that are integrated into their service offering, but they do not offer the range of mapping, analyses, and intuitive functionalities that vFunction's tools offer. Moreover, they are not available for licensing and are provided as an add-on to the service portfolio that the customer purchases. The biggest differentiator, however, is the ability of vFunction's tools to put a dollar value on the technical debt and highlight the risks and costs involved in modernizing it, which has not been a feature of other similar tools.

Product overview

Launched in 2021, vFunction is a startup and its flagship platform consists of two products: Assessment Hub and Modernization Hub. The platform is the culmination of several years of research and development by vFunction's founders, who wanted to provide a solution for an underserved aspect of application modernization. Assessment Hub plugs into the system being modernized and pulls out information on the constituent services, their interactions and interdependencies, the amount of technical debt residing in the system, and the costs and risks involved in refactoring it. Assessment Hub provides a static view of the system and offers enterprise architects the information needed to make a business case for modernization.

Modernization Hub, on the other hand, goes one step further and offers a visual representation of the data gathered by Assessment Hub, combined with a dynamic analysis of the application in production (or in staging). It then provides a virtual sandbox that can be used to test scenarios such as merging services or splitting them apart and what impact that would have on the business logic, data, interdependencies, and integrations with downstream systems and data. Modernization Hub also allows the user to extract the source code, which can then be worked upon and converted into microservices that are cloud-deployable. The platform (shown in **Figure 1**) allows the users to track the impact that the modernization program has and provide clear, quantifiable metrics that can be used to assess return on investment (ROI). Moreover, gaining greater visibility into the "mess in the closet" allows organizations to overcome the fear that modernizing might "break the system."

1. Figure 1: The vFunction platform provides an end-to-end modernization solution



Source: vFunction

The two modules can be licensed separately or as one platform, where they bring together the ability to perform a deep analysis of the inherent technical debt in an application and the risk and cost associated with modernizing it, with the ability to simulate potential modernization strategies or scenarios, extract the relevant code for modernizing, and converting to microservices. The platform, when used as an end-to-end solution that includes both the hubs, also allows users to dynamically assess the impact that the modernization has had on the application and its data.

Company information

Background

vFunction was cofounded in 2017 by serial entrepreneurs Moti Rafalin (current CEO), Amir Rapson (CTO), and Ori Saporta (systems architect), who wanted to address the challenge of moving the vast majority of non-cloud-native workloads to the cloud through refactoring. They also wanted to provide a solution to one of the major challenges of modernizing large Java-based applications – identifying and quantifying technical debt – and reduce the manual activity involved with the process. Modernization Hub was launched in February 2021 and Assessment Hub was launched in May 2022 as a solution to help enterprises analyze the technical debt of monolithic applications, identify the source of that debt, and measure its negative impact on innovation.

Current position

vFunction has deployed Modernization Hub across over 100 customers in the automotive, banking, financial services, and insurance (BFSI), retail, government, and manufacturing industries. Microsoft has a Java Refactoring Service based on vFunction's Modernization Hub that allows its customers to transform Java monoliths into microservices and move to Microsoft Azure. vFunction also has partnerships with global SIs such as Wipro, Accenture, Mphasis, SCSK, TCS and HCL, and major cloud providers such as AWS, Google Cloud, HPE, and Microsoft Azure (HPE, Wipro, and SCSK are also investors).

Future plans

vFunction plans to launch a SaaS-based offering for Modernization Hub in August 2022, which will provide an alternative for customers that would prefer to run the solution in the cloud rather than on-premises. A version of Modernization Hub that supports .NET applications is also currently in beta.

There are future plans to introduce the ability to continuously assess, monitor, and measure the modernization program that the solution is being implemented for. Plans also exist to enable the capturing of architectural drift (what the current architecture looks like compared to what was originally envisioned) as the modernization program progresses, finding and resolving dead code, monitor for licensing and security weaknesses, and introducing the ability to dynamically test from within the solution.

Key facts

Table 1: Data sheet: vFunction

Product name	Modernization Hub	**Product classification**	AI-driven modernization platform
Version number	2.5	**Release date**	February 2021
Industries covered	All	**Geographies covered**	All
Relevant company sizes	Medium-sized and large enterprises	**Licensing options**	On-premises and SaaS (from 3Q22)
URL	www.vfunction.com	**Routes to market**	Independent licensing and through partners
Company headquarters	Palo Alto, California, US	**Number of employees**	30

Source: Omdia

Analyst comment

Legacy modernization is one of the major priorities for enterprises with nearly a third of the 4,757 respondents to the 2022 IT Enterprise Insights Survey considering it among the top three IT priorities for their organization. Modernization lays the foundation for building digital businesses and vFunction's platform helps enterprises quantify the risk of inaction, which is equally, if not more, important than the ability to quantify the cost and ROI.

vFunction is still a startup with funding from venture capital as well as vendors such as Wipro and HPE. Moreover, the founders are serial entrepreneurs and their previous company, WatchDox, was acquired by Blackberry in 2015. Hence there is a risk that the company will either be acquired by the vendor investors or by other top bidders when the founders decide to exit it.

The platform is still new and its growing adoption shows that it indeed fills a gap that exists in the marketplace. vFunction's partnership approach also holds the potential to unlock opportunities in the large enterprise that would otherwise be a difficult segment to break into.

vFunction currently markets the platform and its individual components independently, through partners and their marketplaces, as well as integrating it in partners' service portfolios. Omdia believes that vFunction needs to fine-tune its go-to-market and partnership engagement models to ensure that its platform gets the limelight it deserves instead of being just another component of a partner solution.

The marketplace for modernization solutions such as those of vFunction has never been hotter. There is competition from other vendors that have similar offerings as well as IP from SIs that do some, if not all, of the tasks that vFunction is automating. It is essential for vFunction to continue to differentiate its platform from competition. Both Assessment Hub and Modernization Hub have the potential to be expanded into industry-specific solutions and vFunction needs to build a product roadmap towards this aim.

Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. On the Radar vendors bear watching for their potential impact on markets as their approach, recent developments, or strategy could prove disruptive and of interest to tech buyers and users.

Further reading

Transformation at Scale and Speed Is Possible if a Few Ground Rules Are Followed (July 2022)

Agile delivery requires agile procurement (May 2022)

"Solving for yesterday: Why most digital transformations fail" (April 2022)

2022 Trends to Watch: Systems Integration & Application Services (November 2021)

A Principles-based Approach to Technology Planning (October 2021)

Agile Enterprises Must Minimize Their Technical Debt (August 2021)

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