



EXECUTIVE OVERVIEW

2018 Trends in Development, DevOps & IT Ops

PREVIEW

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The modernization of the application stack continues as DevOps, hybrid IT and data integration fit for the machine learning age come to the fore.



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Key Findings

Functions as a service (FaaS) – also known as serverless computing – is set to become a key part of the DevOps toolbox alongside things like containers and microservices as it becomes an increasingly popular way of running applications in the cloud. Virtualization is being disrupted by container-based architectures as organizations seek the most agile platforms possible to better serve developers, drive efficiency, support hybrid clouds and enable digital transformation efforts.

Legacy integration platforms are not fit for modern digital transformation programs. They are gradually being replaced by hybrid integration platforms that enable the exchange and interoperability of data distributed across on-premises infrastructure, software, cloud services, mobile devices and connected things, while giving organizations the ability to take advantage of artificial intelligence and machine learning.

Business process management and enterprise content management have had their day and are evolving into digital automation platforms intended to design, prototype, develop, deploy, manage and monitor a range of process- and content-oriented applications. Low-code application development appeals to less technical developers who want to build light applications to automate away specific problems and focus on higher-value tasks.

The integration of network performance management and application performance management will continue as application infrastructures become more closely aligned with business outcomes. A similar trend is driving the desire to combine metrics-centric systems used for monitoring and log management systems for certain tasks.

Executive Summary

INTRODUCTION

As software's unstoppable encroachment into every type of organization continues, how applications get built, deployed, managed and measured continues to evolve. Last year we noted the need for software frameworks and orchestration layers to support these new styles of software architecture. At the heart of this trend, DevOps is itself evolving as the technologies that underpin it change. As functions as a service (FaaS) – also known as serverless computing – becomes more prevalent because of its ability to isolate the cost of running each function on its own rather than an entire application process, it is being added to enterprises' DevOps toolbox alongside things like containers and microservices. Virtualization was once itself a revolution in computing architectures, but its heyday in terms of new adoption is coming to an end as container-based architectures gradually take over. This is borne out by our own Voice of the Enterprise (VotE) survey data over the past few years, which shows that enterprises are increasingly interested in moving beyond VMs to containers without hypervisor software to better serve developers, drive efficiency, support hybrid clouds and enable digital transformation efforts.

Speaking of digital transformation, it is putting a strain on legacy integration platforms that were designed for yesterday's integration challenges, based more on batch data processing and applications running on-premises. Not surprisingly, organizations are looking to update their integration players to cope with the new demands of application development and deployment, and to take advantage of artificial intelligence and machine learning. What we call 'hybrid integration platforms' (HIPs) are emerging as the new integration layer, enabling the exchange and interoperability of data distributed across on-premises infrastructure, software, cloud services, mobile devices and connected things. These are part of the overall shift to hybrid IT, where workloads are deployed according to the best execution venue. And from a data management point of view, they will provide a more fit-for-purpose option for modern, real-time B2B data integration and support for the Internet of Things (IoT).

Business process management (BPM) and enterprise content management (ECM) tools were key components in the 1990s and 2000s in enterprises seeking to automate their business. But in this era, the kind of automation they offer is not enough, and they have to evolve rapidly. They're turning into what we call 'digital automation platforms' (DAPs), which are intended to design, prototype, develop, deploy, manage and monitor a range of process- and content-oriented applications. Key parts of DAPs include a low-code application configuration environment to enable less technical developers to build applications to solve specific problems and make use of robotic process automation (RPA) and machine learning to automate the repetitive processes of today, so workers can focus on higher-value tasks.

Data integration is the heart of the final two trends we expect to see in 2018: the continuing integration of network performance management (NPM) and application performance management (APM), as well as metrics-collecting systems being combined with log management systems. Both trends are closely related as application infrastructures become more closely aligned with business outcomes. The need to become more data-driven has caused NPM vendors to encroach on the APM space, giving enterprises better data to improve application performance. And in the spirit of only being able to improve what can be measured, a desire to combine metrics-centric systems used for monitoring with log management systems, which are commonly used for troubleshooting, has driven a spate of M&A among vendors, pointing the way to further integration of the two disciplines. The value is in using the metric system to identify the nature of the problem and then trawl the logs to identify the cause of it. The promise is of more personalized and contextual experiences for users, as organization work to ensure their most important customers get the experiences they expect.

451 Research's 2018 Development, DevOps & IT Ops Trends

Source: 451 Research, 2017

	WINNERS	LOSERS
Functions as a Service Will Increasingly Influence DevOps	Vendors bridging cloud-native and existing workloads and those building on open source software	Head-to-head hyperscale competitors; those that fail to plan ahead for future FaaS usage
The True Container Disruption of VMs Will Begin	Supporters of VMs and containers; players paving the path	Vendors supporting only container-based applications or only VM-based applications; container holdouts
Hybrid Integration Platforms Will Extend Their Depth and Reach	HIP vendors that address data quality issues; enterprises that seek to understand the emerging capabilities of various HIP vendors	Enterprises and vendors that fail to keep pace with technical and market dynamics
Next-Generation Digital Automation Platforms Will Emerge	Vendors that continue to abstract away complexity through continuous improvement of low-code application configuration and composition techniques; vendors that make it practical to use machine learning and artificial intelligence technologies; enterprises that exploit the capabilities of emerging DAP offerings to craft new intelligent process- and content-oriented applications	Vendors that fail to consider the evolving trends and competitive dynamics within markets tangential to their offering; enterprises that dismiss DAP's capabilities
Application Performance Management and Network Performance Management Will Intersect	NPM vendors able to position themselves as increasingly important in software-driven enterprises; enterprises that gain deeper insight into applications	NPM and APM vendors that don't recognize the value of combining the data they collect; NPM vendors that oversell the utility of the data they collect
Metrics and Logs Will Integrate for Monitoring and Troubleshooting	DevOps and operations teams that are able to respond quicker when performance problems occur; vendors that identify and aptly market additional use cases for the functionality	Vendors that don't recognize the opportunity and that fail to come up with an integration that marries logs and metrics; enterprises that don't investigate the potential benefits of integrating logs and metrics

METHODOLOGY

Reports such as this one represent a holistic perspective on key emerging markets in the enterprise IT space. These markets evolve quickly, though, so 451 Research offers additional services that provide critical marketplace updates. These updated reports and perspectives are presented on a daily basis via the company's core intelligence service, 451 Research Market Insight. Forward-looking M&A analysis and perspectives on strategic acquisitions and the liquidity environment for technology companies are also updated regularly via Market Insight, which is backed by the industry-leading 451 Research M&A KnowledgeBase.

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All of these 451 Research services, which are accessible via the web, provide critical and timely analysis specifically focused on the business of enterprise IT innovation.

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