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SPECIAL REPORT

THE VALUE OF BUSINESS AUTOMATION IN A MICROSERVICES WORLD

Executive Summary

This report investigates the prevailing trend toward the use of microservices by information technology (IT) departments within large, technologically complex organizations. Today, IT is being asked to:

- Generate disruptive thinking within their own department
- Maintain business applications to ensure availability at all times
- Develop custom applications for business users who want to process data in new ways

The demands may seem near-impossible to meet, but a new class of business automation solutions help bridge the gap.

IT may now help business users leverage new ideologies like business process management (BPM), package them into portable containers, and deploy them easily via microservices. Monolithic, developer-led applications are a thing of the past, and microservices are just getting started on making even complex enterprises more agile and more aligned.

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IT Is Setting The Stage For Microservices

Business automation promises rapid and enormous change for enterprises who can do it well, but the technological challenges are multifaceted and complicated to solve. Those who can figure out how to develop and deploy new applications quickly, with reliability and governance in mind, will find themselves in a position to out-innovate and disrupt their competition. Those who fail to apply these tools, or do so without adapting to the current need for cloud-native applications driven by microservices, will continue to struggle amid a business automation climate that requires all hands on deck.

This difficult business climate means developers and business users need to work together—atop an infrastructure that allows for and inspires collaboration—if they wish to succeed.

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A business's **agility** depends upon its ability to respond with near-instantaneous speed to new business needs and desires of customers. Just recognizing a new requirement or desire isn't enough—the enterprise then needs to respond, in the form of new applications, with definitive speed. Business automation tools allow a wider variety of business users to take on the role of developing these applications, which lessens the burden on an already overwhelmed IT department. When time to market is everything, and even a few weeks might be too long in certain industries, business automation makes enterprises more agile while also helping them handle the technological headaches that often come when business users develop customer-facing applications without any IT oversight.

The new **alignment of IT** has been brought on by the advent of new business automation tools. IT leaders are being asked to direct new disruptive efforts, which is a shift from the past, when marketing or the C-suite mostly led such efforts. IT is expected to shift their innovative thinking away from internal tools/infrastructure and instead focus on creating applications that deliver a better experience for the customer.

The traditional demands put on IT, such as reliability, high availability, and security—in other words, keeping business systems like email and chat always online and available—are just as significant as they were before.

But IT leaders are also being asked to expand their horizons to focus on ways that technology can be used to acquire more customers or generate more revenue. These demands amplify IT's workload and their need for business automation tools that enable business users to create applications in secure, governed, and resilient ways.

IT departments are finding that they need to rapidly shift from creating monolithic applications themselves to figuring out the right policies that will guide business users toward creating powerful apps that are interoperable with the rest of the organization's infrastructure. Discovering the right policies becomes even more complicated as IT professionals embrace new methods of deploying applications—such as cloud-native applications, containers, and container systems like Kubernetes or OpenShift—and making them available either to the internal organization or to the customer.

The confluence of complicated and often conflicting needs among business users, developers, and IT points to a single technical arena that many enterprises have yet to understand: *microservices*.



Enter a New Class of Business Automation

In the past, IT deployments were considered *monolithic*. At the beginning of a project, business users and developers met to scope out an application's purpose and requirements. Developers got to work on the code, and when finished, they deployed a static application on top of the existing IT infrastructure. Business users could not understand how the application worked or alter its logic in any way, which often created rework or an ongoing, overwhelming number of requests to the IT department to fix or refocus the application to meet the most up-to-date customer demands.

Businesses with rapidly moving technological stacks long ago realized they needed to abandon this model. Containers have gotten them part of the way, but many are still searching for a permanent solution.

Microservices is a style of architecting applications as loosely connected services, each of which implements a particular function for the business. Developers can package microservices inside cloud-ready containers, which allows for the continuous delivery of even the most complex of applications. So instead of updating an entire monolithic system, IT departments can improve microservices one by one as needed. In this way, organizations can quickly evolve their underlying technology without having to throw out all the previous work, and without adversely affecting other critical applications.

But, despite their many benefits, adopting and deploying cloud-ready, microservice-based applications—particularly in an effort to improve the business automation toolkit—is not easy. Business users never understood the code and logic behind monolithic applications, and without a great deal of built-in user-friendliness, they won't understand a microservice either.

IT needs to discover ways to help business users interface directly with the applications they require most immediately, deploy those applications as microservices, and ensure everything is secure, scalable, interoperable with the existing technology stack, and entirely governed by existing IT best practices. That's a wholly new workflow, and not an easy one to envision. Fortunately for forward-thinking IT teams, others already have.

The New Class

To help meet these disparate needs, a new class of business automation solutions has cropped up in recent years. These suites introduce a collection of low-code graphical tools that help business users leverage business process management (BPM), business rules management (BRM), case management, and complex event processing (CEP) technologies to explicitly define essential internal procedures, understand them, automate them, and then capture the results of their efforts.

The drag-and-drop environment helps users define the various ways in which a process can be completed and create branching narratives based on how the business currently runs or how it could be run in the future.

For example, a data modeling tool might help users define which data is accessed by a process, no matter how complicated the data. Business rules modeling tools (such as decision tables, decision trees, scorecards) can be used to add complex decision logic to a process to determine which branch to take for different data combinations, for example. By using this set of tools, enterprises can model, test, deploy, monitor, and optimize processes on a single platform. Models and rules are already offering a surge of business automation potential to enterprises across verticals.

Red Hat's Process Automation Manager is one of the available solutions. The company positions Process Automation Manager as an application development platform that helps companies deploy business automation applications in a way that satisfies both IT's appreciation for cloud-ready microservices and the rapidly changing needs of nontechnical business users.

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But good business automation solutions don't just hand the keys over to business users—they also empower traditional developers who were once responsible for all application development. These talented workers can now create a reliable and fully governed platform, on top of which business users can safely and efficiently innovate. The platform packages modeling and rule-making applications into containers and microservices. In the end, microservices can be deployed on a private, public, or hybrid cloud, reaching both internal users and customers, and creating a streamlined experience that can be led through traditional, continuous integration and delivery.

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How Healthesystems and BBVA Navigate a Microservices World



Healthesystems and its more than 400 employees realized they needed to become more *agile* quickly, or else. The company, a provider of workers' compensation medical management solutions, could not respond instantly to changing regulations and new customer demands.

The company's legacy compliance reporting application was at the core of its troubles. Sam Alexander, enterprise architect at Healthesystems, says, "Our reporting solution was on a slower legacy platform. We needed a solution that would help us react more quickly to reporting requirements from the many different states, which change often. ... We had all those rules in code, so if a business analyst had to update a rule, they needed a developer to help. We need our business analysts to focus on the business, not the technology."

To do just that, the company deployed a new business rules management system (BRMS) to separate business logic and code. Analysts can now use a web-based decision table to change rules, which are applied according to the underlying business logic—without assistance from a developer.

This single change, in addition to improved workflows and the ability to monitor business processes through more intuitive interfaces, has helped Healthesystems reduce the time to update reporting rules from weeks to a matter of days.

"Performance has significantly improved with the new rules engine. Our margins calculator went from hours to minutes to complete a single batch run," says Alexander.

By implementing a microservices-based platform for business automation, Alexander helped the company's IT team better support the needs of business users while also easing their workload. In doing so, he's helped make the company far more agile, but that is only half of the business automation battle.



BBVA

When it comes to **aligning** IT to deploy microservices while delivering disruptive thinking, there are few better examples than **BBVA**. Headquartered in Madrid, Spain, the global financial group offers services to more than 73 million customers in 30 countries. Add to that 130,000 employees, 70 million business transactions per day, and demand for 24-hours-a-day functionality from anywhere in the world, and it becomes clear how the enterprise might need a robust, governed, and fully integrated infrastructure.

Deploying on a global scale is difficult, even when IT fully controls the lifecycle of every new application development. It becomes even more challenging with the advent of business users who have the will—but not yet the toolkit—to create better customer experiences.

BBVA recognized this challenge early. José María Ruesta, global head of infrastructure, service, and open systems at BBVA, says, “We have to achieve a balance between innovation and reliability. But as a bank, trying to translate these values into technology is difficult. Imagine a datacenter full of different operating systems, languages, and interfaces. There’s no room for innovation.”

The company collaborated with Red Hat to deploy a cloud-native platform, the core of which is Red Hat OpenShift Container Platform. Process Automation Manager runs atop that, which helps bridge the gap between business users leveraging low-code application development tools and the deployment of a new microservices-based application.

In accepting the microservices world for business automation tools, BBVA started to recognize an immediate benefit in how its IT teams collaborated amongst themselves and with other parties, both internal and external. Their teamwork was founded atop having a single platform for developing and deploying new applications on an open, cloud-ready infrastructure. Without proprietary systems or making incessant requests to IT, Ruesta says, teams can “develop an idea quickly, eliminating distractions from innovation and discovery. They don’t need to worry about whether they need a small or big server to run their apps.”

A single infrastructure based on containers and microservices means better integration for BBVA as well. The company can govern its deployments and extend reliability in a united fashion, even across multiple IT teams in different countries. They’re now also able to fix issues and launch improved services without downtime, all while deepening collaboration with the business units that drive innovation and disruption.

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Get Ready for the New Alignment

Success in digital transformation depends heavily on an enterprise's ability to move quickly and disrupt traditional ways of thinking. But if creating business automation processes rests solely on the IT department, rapid innovation will likely bottleneck as developers become overloaded with requests from business users for new and altered applications.

On top of that, innovations in cloud deployments require a different way of looking at how applications are made available. Without a monolithic architecture to guide decisions toward the highly structured, governed deployment style of the past, microservices give both developers and business users the flexibility to rapidly iterate, test, and release new features while also ensuring that the company's infrastructure is maintainable. Achieving both of these goals is where Process Automation Manager excels.

As IT departments work toward more sophisticated application development, particularly via microservices, they should remain aware of a few prevailing trends and recommendations:

- ✓ Create more in-person collaboration between business users and IT, even when using a collaborative platform like Process Automation Manager, to ensure development moves efficiently.
- ✓ Educate key business users on how they can become self-starters on application development to reduce the workload on IT and free them to work on even more innovative tasks.
- ✓ Create new policies for realigning how IT helps create better experiences for customers, not just the enterprise itself.
- ✓ Ensure business users are aware of IT concerns around security, reliability, high availability, and governance, even if the business automation tools (such as Process Automation Manager) help enforce those guidelines automatically.
- ✓ Educate the entire enterprise on the general trend toward microservices, focusing on the value it brings to the organization instead of the technical benefits.

[Learn more about process automation solutions from Red Hat.](#)