

Organizations that adopt DevOps can face challenges to break down barriers between teams. DevOps will succeed only when there is cooperation among development, operations, product management, and business stakeholders.

The Importance of a Collaboration Solution for Modern Developers and DevOps Teams

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Introduction

Increasingly, development teams are exploiting team collaboration applications to provide a collaboration workspace within and between groups. A collaboration solution uses channels that contain documents, chat activity, and communication history to maintain a persistent auditable timeline of all the communication and activities of the teams.

Organizations that adopt DevOps often grapple with breaking down barriers between the various teams along the value stream. DevOps excels only with real fluid communication and cooperation between development, operations, product management, and business stakeholders. Organizations that can foster a culture of collaboration will be able to drive more velocity from their DevOps teams. Collaboration among the teams ultimately reduces friction across the DevOps pipeline and improves the speed or velocity with which teams can deliver value to their customers. Without proper collaboration, teams will struggle, and this will often manifest itself as poor or slow communication, inferior quality and velocity, and lack of trust and transparency.

Modern development and DevOps teams have unique collaboration needs and require a robust solution that they can trust to support secure communication. For development teams, the collaboration solution needs to be intuitive and compelling to use and cannot create added overhead that deters adoption. The solution needs to function as the communication hub for all team activities and seamlessly integrate with existing development tools. Further, any collaboration solution needs to interact easily with the DevOps pipeline.

AT A GLANCE

KEY TAKEAWAYS

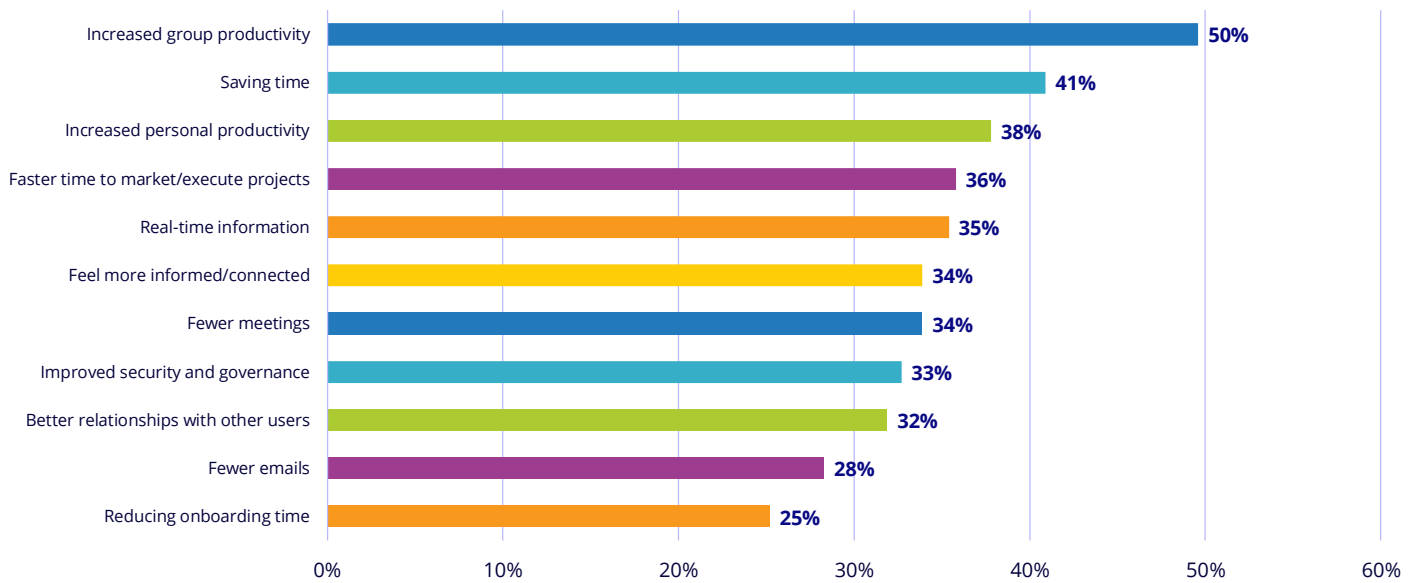
Collaboration tools have become an essential resource for an agile organization that employs modern development approaches combined with DevOps practices. Empowering developers and operations personnel to collaborate reduces the amount of time wasted on communicating issues and related knowledge transfer, which leads to faster and more consistent issue resolution. IDC research finds that developers want to develop software — not resolve problems — and reducing friction helps promote that outcome.

Benefits

Collaboration solutions offer numerous benefits to development and DevOps teams. They can improve productivity by reducing email noise, reduce developer time wasted in meetings, and increase overall team transparency. In a recent IDC survey, enterprise collaboration software users identified "increased group productivity" as the top benefit of collaboration solutions (see Figure 1). Many of the other popular responses focused on speed and productivity; "saving time" and "faster time to market" are derivatives of productivity.

FIGURE 1: *Advantages of a Collaboration Solution*

Q *What are the top 5 benefits of using a team collaboration application?*



n = 254

Source: IDC's 2019 Collaboration Study: The Collaborative Workforce

Developers and DevOps teams need transparency and open communication to be successful. It can be overwhelming to keep track of long email threads, text messages, and multiple places where team members are communicating with one another. A DevOps team should expect to glean the following benefits from its collaboration tool:

- » **A unified communication hub.** A strong collaboration platform allows all the communication to occur in one place so that it is visible to the entire team. Typically, these communications are further segmented out using channels to capture discussions around different topic areas. This transparency ensures everyone has access to information and can update it and comment on it.

- » **Seamless integration with DevOps tools.** For DevOps teams in particular, the collaboration solution becomes a key interface to other solutions and services that they need to work with. Therefore, the ability to easily integrate with tools across the DevOps pipeline is vital. This may include standard DevOps tools such as GitHub and Jenkins, but often enterprise customers will need to be able to work with internal tracking or development tools as well. It is important that these integrations are bidirectional such that developers do not have to context switch between their collaboration solution and the underlying DevOps pipeline tools.
- » **Ready access to knowledge.** With all the communication that they care about in a single place, it's easier for DevOps teams to search through content to find and retrieve a variety of information types. Collaboration solutions make this process much easier by providing fast searching with capabilities such as advanced filtering, which allows developers to search by date, poster, channel, group, hashtag, and more.
- » **File transfers.** A collaboration solution must allow DevOps teams to easily send and receive files. For teams, this must include being able to transfer files between one another and across teams as needed to maintain optimal communications between development and IT operations. For example, an IT operations team might need to quickly share log files with a developer to improve the responsiveness to production issues.
- » **Code sharing.** Development teams need the ability to share their codes with one another while maintaining things such as syntax highlighting and integration with integrated development environments such as Eclipse and Git source control management. This enables developers to modify source code easily and in context so that teams can adopt strategies such as peer programming. Of course, all the activity must be searchable so that teams can refer back to prior coding sessions.
- » **Mobile accessibility.** DevOps team members work on their laptops and use tablets and smartphones as well. DevOps team members often work across geographies and time zones and thus need to be able to communicate at any time of the day or night, using whatever device they might have access to at that moment in time, to respond to production issues.

While open source tools are not a requirement per se, developers tend to gravitate toward them because they provide exponential innovation possibilities via the power of the community. Open source solutions tend to add functionality relevant to the audience more quickly than proprietary solutions. As a result, open source adopters are able to influence prioritization of capabilities added to open source initiatives and quickly accomplish goals specific to their environment. Open source is also easily accessible and free to download, allowing developers to download the software and try it out before deciding on full-scale adoption of the software.

Trends

Modern development teams increasingly comprise diverse team members who are already accustomed to communicating using social media-like tools. These teams require a means of unified communication that will empower them to be more agile, innovative, and successful by coalescing people, tools, and knowledge. A collaboration solution enables development teams to be more connected through the sharing of information, files, and workflows. This improves the speed with which they can deliver releases and resolve incidents and outages.

It is commonplace for DevOps teams to work in multiple locations, geographies, and time zones. For example, development and QA teams might be located within a research and development center in one region and the IT operations might be in another location that is in closer proximity to a corporate datacenter or a network hub. As a means of attracting valuable software talent across the globe, some companies have even created a "remote first" workforce. It is impractical for these diverse and dispersed DevOps teams to communicate using email or by scheduling team conference calls that are unproductive and inconvenient for certain time zones. Making these types of detached work configurations functional for DevOps requires teams to have access to a collaboration solution that enables secure and fluid communication among the various team members irrespective of their physical location. These new modern DevOps teams need to be able to standardize on real-time collaboration that securely connects people, tools, and automation.

ChatOps

Many development and DevOps teams that have developed a culture of using chat to collaborate are discovering that they can use ChatOps to drive stronger communications and velocity. The term ChatOps was first coined by GitHub to describe how teams were putting tools in the middle of their chat sessions; it is sometimes referred to as conversation-driven software development. It is a way for development teams that have made an investment in a collaboration solution to leverage bots to optimize various tasks. These bots can be augmented with plug-ins and scripts to provide custom automation. The bots can handle repeatable tasks such as deploying code, responding to events, or sending a notification across the team. ChatOps brings development and DevOps tools into conversations using a modified chatbot configured with plug-ins and scripts. From the user perspective, there is no need to switch between GUIs or command lines.

By contrasting chats with context and actions, teams create a unified interface to everything that takes place throughout the day, including how tasks are accomplished, who took action, and what the results were. This speeds the time needed overall to complete tasks and allows the entire team to collaborate in real time as commands are being executed. ChatOps enables DevOps teams to bring development and IT operations into a common chat to collaborate on deployments and address production issues.

With ChatOps, the various teams involved in a project do not need to sit in a war room or on a lengthy conference call when dealing with a hot production issue. ChatOps allows the development and IT operations teams to avoid the painful war room experience and collaborate on the problem in real time. This cross-team collaboration provides for a much faster and more efficient resolution of application issues. Through the transparency of using chat, all activity is visible, allowing team members to learn from one another and providing a real-time status update for leadership.

Importance of a Trusted Solution

In the modern digital economy, organizations need to carefully protect their digital assets, and no digital asset is more important than their software intellectual property (IP). Closely related to the code itself would be the private chat that takes place among software developers and DevOps teams related to bugs being addressed, potential vulnerabilities, or other sensitive discussion topics. Lack of tight security around these systems could also become an appealing target for creative hackers looking to infiltrate organizations that use a hosted communication tool to share information.

It is important that developers and DevOps teams standardize on a collaboration solution that provides enterprise-grade security and rigor that are trusted to protect IP and confidential chats. For this level of trust and security, organizations need to look for a solution that still offers the required feature-rich capabilities while enabling developers to

communicate securely. Some organizations believe that the most secure place for data is behind the corporate firewall, while other organizations have shifted their thinking and view cloud-hosted applications as being equally or more secure. As such, an ideal collaboration solution is deployed within a datacenter yet can also be deployed within a public or private cloud should an organization want that option. Further, a collaboration solution should support security technologies such as Secure Sockets Layer (SSL), virtual private networks (VPNs), and DMZ perimeter network configurations.

Considering Mattermost

Mattermost is an open source, self-hosted messaging platform that provides high-trust collaboration for enterprises. As an alternative to public cloud, proprietary SaaS messaging solutions, Mattermost brings all team communication into one place, making it searchable and accessible anywhere. Built for the unique needs of development teams, Mattermost provides the flexibility and extensibility development teams need without sacrificing privacy and data control. Mattermost can be deployed within an organization's datacenter but optionally deployed within a public or private cloud. Mattermost provides enterprise-grade security that organizations trust to protect their IP and confidential communication. Mattermost gives organizations control over the security, privacy, and regulatory requirements that are vital to enterprise businesses. Mattermost claims over 10,000 server downloads per month with over 1,000 developers contributing to the Mattermost open source project.

Mattermost's messaging and collaboration solution is specifically designed to enable efficient DevOps workflows and is flexible enough to be customized to meet the needs of modern software development teams. Mattermost has over 600 prebuilt available integrations including the most commonly used developer and DevOps software tools. For integrations with custom in-house solutions, the company provides a plug-in framework and full APIs. With Mattermost, DevOps teams can reduce context switching between tools, automate workflows, and use ChatOps to improve their overall efficiency. Mattermost provides developers and DevOps teams with built-in support for high-trust information security that gives organizations peace of mind and allows DevOps teams to communicate without fear of compromising confidential IP.

Challenges

Mattermost faces a few challenges in the market for DevOps collaboration solutions, including the following:

- » **Well-established rivals have deep pockets and broader reach.** Mattermost is competing among giants, including Microsoft, which claims to have 150 customers each with over 10,000 active users for Teams, and Slack, which claims to have over 10 million active daily users, including 65 of the Fortune 100 companies.
- » **Open source software encourages competition.** The barrier to entry for potential competitors is lower because the core functionality of products based on open source software is available in source code form to any new entrants. Mattermost, as a technology based on open source software, is subject to such possible competition.
- » **DevOps tooling vendors have a customer relationship that can influence related product selections.** In cases where developer or DevOps tooling is already integrated with collaboration solutions, it could be harder for a new entrant to gain traction. Ongoing consolidation of the DevOps market means more out-of-the-box relationships between products can be created.

Conclusion

Collaboration software has become a standard component of the current work environment, with developers and DevOps professionals often running point for such technology adoption. It is reasonable to believe this market will continue to see substantial growth as the use of DevOps continues to penetrate the industry. IDC research finds that 67% of organizations today have embraced DevOps for at least some of their application portfolio. As that penetration expands to include more of a company's application estate, the need for effective tools to connect developers and DevOps professionals will only increase.

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About the Analysts



Al Gillen, Group Vice President, Software Development and Open Source

As Group Vice President, Software Development and Open Source, Al Gillen oversees IDC's software development research portfolio. Research disciplines in this group include developer research covering census, demographics, and developer activities; platform as a service and cloud application services for developers; and developer life-cycle and quality assurance products. In addition, Mr. Gillen jointly oversees IDC's DevOps research program and runs a program focused on the ecosystem of open source software pan-industry.



Jim Mercer, Research Director, DevOps

Jim Mercer is a Research Director within IDC's DevOps Solutions research practice. In this role, he is responsible for researching, writing, and advising clients on the fast-evolving DevOps market. Mr. Mercer's core research includes topics such as rapid enterprise application development, modern microservice-based packaging and automated deployment and life-cycle/management strategies as applied to a DevOps practice.

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