



# How to Improve Application Support with a DevOps Approach



stackify

## Overview

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Commercial software providers and enterprise development teams are pressured to create, enhance and deliver applications at an ever-increasing rate. While agile software development practices help minimize release cycles, costly and time consuming production application errors

still plague developers, systems administrators and IT whether or not DevOps teams have been established. Application problems commonly arise from change. The rapid changes caused by agile development therefore necessitates solving application problems very quickly.

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The goal of DevOps is to get developers more involved in IT operations so they can more effectively resolve application issues in production environments. However, if developers don't have access to production applications and servers, troubleshooting issues can be very time consuming which leads to a large backlog of system defects, unhappy customers, and the inability to work on other projects.

development processes and tools, companies can make their teams more efficient while maintaining existing headcounts.

In today's markets, development managers are challenged with finding skilled developers to fill open positions to improve output from the team. Developers commonly spend a large percentage of their time working on application defects and support problems when their time would be better spent on higher-value tasks. Using improved

This white paper explains how common barriers to production application support agility can be overcome in a time and cost-efficient manner with a DevOps approach, while reducing the cross-functional friction that commonly arises when deployed applications stop running or exhibit errors.

## Developers Struggle as Post-Production Problem Solvers

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Software teams have embraced agile software development, automated testing and continuous deployment with the goal of releasing better quality software faster. Yet, application problems still arise in production due to constant software feature and configurations changes, infrastructure changes, human error, performance problems, unforeseen test scenarios and other common problems. Historically there has been a lot of friction between development and operations teams that stems from a lack of shared insight into the root causes of the problems.

When a problem arises in production, developers typically lack visibility into their applications and the production servers on which their applications are running. The underlying systems are typically made up of multiple applications and services working together across many servers and even multiple datacenters. The resulting complexity makes it difficult to pinpoint issues especially in the absence of proper access and tools that enable a big picture view of the operational system health and status. It can be very time consuming to log in to multiple servers one by one to check different system vitals and components to ensure they are working properly. Meanwhile, managers are pressuring developers to finish projects faster which can cause fewer diagnostics and logging to be built into applications.

Due to lack of role-based access to production servers and support tools, companies are forced to limit administrator level access to system administrators, development managers and some senior developers. Many companies are also forced to limit developer access to production and support tools due to security concerns, auditing complexity, regulatory requirements, or other reasons.

Most of the time, developers have no idea which servers are running their applications. Ironically, system administrators are often unfamiliar with the specifics of the applications running on particular servers including their exact configurations. As a result, the knowledge necessary to troubleshoot production applications and environments can be very fragmented across senior developers, system analysts, system administrators, and those doing application deployments.

Developers often require the troubleshooting assistance of their managers or system administrators. This is commonly done via screen sharing in person over someone's shoulder or by using an onlinescreen sharing service. Senior developers are often forced to spend most of their time working on or assisting other developers with production issues because they are the only ones with the

access and training to resolve the issues. This prevents them from working on other projects and creates a bottleneck in the team's ability to perform application support.

Developers and operations are increasingly overwhelmed by the volume and variety of

tool sets required to do their daily jobs. In fact, many companies are experiencing “death by tools” due to the sheer volume of tools that exist. Commonly, few employees are trained on the tools and the tools are underutilized.

<b>Development Tools</b>	<b>Operations Tools</b>
ALM/Project Management	Server Monitoring
Automated Testing	Performance Monitoring
Continuous Build	Database Monitoring
Deployment Automation	Job Scheduling
Support Tickets	Systems Management
QA Test Scripts	Change Management
Code Profile Databases	Help Desk Software
Log File Access	ITIL
	CMDB

The large volume of tools makes it difficult to choose the correct tool for the problem, and to correlate and troubleshoot issues quickly. Improving the effectiveness of application support necessitates a single platform that combines the functionality of multiple tools with built in auditing and role based access.

Production troubleshooting is even more problematic for remote or offshore development teams due to time differences, screen-sharing challenges and communication barriers. Extending production access and support tools to remote and offshore development teams can enable delegating application support tasks and resolving issues quicker.

**Ideally, developers should be able to:**

- ◆ Search and sort applications by environment, location or across multiple data centers
- ◆ See a unified view of their application health from one tool
- ◆ Be able to restart applications when necessary
- ◆ View all application files and application-related files including config and log files
- ◆ Query production databases without causing performance or security problems
- ◆ Share dashboard views with others without having to log into various tools and services
- ◆ Track application and server changes
- ◆ Access and monitor servers and server resources in real-time
- ◆ Access Windows Event Viewer without multiple logins

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Without enhanced application support tools, developers and systems administrators spend an inordinate amount of time identifying and correcting errors when they should be spending more time building new features or working on more strategic projects.

Most development teams and individual developers spend 20 to 30 percent of their time on application support when their time would be better spent creating new feature sets or building more intelligence into their applications. With instant dashboard views of applications, servers and their present status, the time required to find and fix errors can be reduced by an order of magnitude – from weeks to days and from days to hours.

In today's markets, development managers are

challenged with finding skilled developers to fill open positions to improve output from the team. Companies can use improved development processes and tools to make their teams more efficient while maintaining existing headcounts. With instant dashboard views of applications, servers and their present status, the time required to find and fix errors can be reduced by an order of magnitude – from days to hours and hours to minutes – using Stackify. Stackify is designed to help developers spend less time firefighting application problems so they can go back to working on new projects and drive new innovations.. Finally, developers can have the visibility and tools they need to support mission critical production applications while preserving operational security controls and separation of duties.

## Operations Needs Post-Production Assistance

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Some companies have established formal DevOps teams with the goal of speeding software releases by bridging the gap between development and operations teams. While development teams are working furiously to add new features and build better quality software in ever shorter time frames, operations is challenged with a fluid IT infrastructure that constantly changes in the data center, among data centers, in the cloud and in hybrid environments. Cloud adoption further complicates server sprawl

and the access and control to those systems. And, employees outside of operations are now able to purchase and deploy servers without operational oversight.

If a DevOps team exists (and even if it doesn't), organizations are looking for ways to get developers more involved in application support so they can resolve production-related issues faster. Operations also needs new tools to manage their hybrid environments.

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**If developers and operations had a common view of production applications and servers it would be possible to:**

- Watch log files as they change in real time
- View, start and stop services running on a particular server
- Monitor server performance including CPU and memory
- See the status of web application pools
- View scheduled tasks
- Get notifications and alerts
- Audit server and application activity

Without such visibility, it can take days or weeks to resolve issues that could be resolved in hours or days simply because today's troubleshooting practices are more cumbersome than they need to be. Errors either have to be identified and resolved manually; or a collection of server monitoring, log analysis, event management and other tools must be used to identify issues.

Because development and operations teams each use so many tools, data is often spread out across the tools and across different locations. The environment may be so complex that it is difficult or impossible to trace all access rights of every individual. And, because so many disparate tools exist, it can be difficult to discern which tool to use, as well as having access and training to all of the needed tools.

Meanwhile, developers and operations are often duplicating efforts, increasing the cost and time needed for resolution. What's more, the serial nature of the back-and-forth communications about small details often causes friction between development and operations teams. Although collaboration might improve by giving developers and operations personnel greater access to each other's tools and services, licensing costs, training, as well as security, compliance and auditing risks prevent organizations from doing so.

If operations teams deny developers access to production applications and systems,

application support is more difficult. Conversely if operations gives developers too much access the developers may make unauthorized changes that can cause a cascading set of issues that are difficult to identify, analyze and fix. More often than not, the risks of unauthorized changes, separation of duties, access to secure data and other reasons typically prevent developers from having the kind of access to production servers and tools necessary to support production applications. Ideally, developers should have read-only and audited access to infrastructure resources so they can get the information they need without exposing the organization to unnecessary risks.

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#### Using Stackify, operations teams can:

- Provide cross-functional DevOps visibility
- Maintain security and compliance policies
- Control access rights
- Filter and mask sensitive data
- Audit developer access to production systems



## Improving Production Application Support

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Growing software development and infrastructure complexity make production troubleshooting more difficult than ever. Using Stackify, developers can get instant information about the health of their production applications and servers -without having to bother development managers or systems admins and without exposing the organization to unnecessary risks.

- ◆ Reduce production application support time
- ◆ Build more stable applications that exhibit fewer errors
- ◆ Transcend the complexity caused by continuous deployments, multiple releases and branching
- ◆ Share a common view and have a productive conversation with operations

At the same time, operations can maintain infrastructural integrity and manage risks while providing and gaining unprecedented insight into production environments.

- ◆ Control access rights
- ◆ Gain production insight across physical and virtual environments in data centers and clouds
- ◆ Spend more time on infrastructure management and less time on developer support
- ◆ Find and resolve post-deployment errors faster than ever before

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With Stackify, developers and operations personnel can collaborate and have shared visibility to solve production application support problems. Difficult-to-resolve issues involving multiple points in the application stack, network, and multiple servers are now instantly viewable on a single screen. While competitors are checking servers one by one for potential problems, you can enjoy immediate views into production applications and servers so you can rapidly troubleshoot and resolve issues.



## Stackify Benefits

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**IT Leaders and Development Managers** will see increased productivity and improved collaboration throughout their development and operations teams by breaking down silos and creating a unified view of the enterprise.

### With Stackify, you will:

- ◆ Reduce support overhead and costs
- ◆ Resolve customer-impacting production issues faster
- ◆ Improve uptime
- ◆ Benefit from greater collaboration and knowledge sharing
- ◆ Get better real-time visibility across your environments
- ◆ Satisfy IT Audit requirements through role-based access for developers and tracking of all troubleshooting and change activity.
- ◆ Eliminate the loss of visibility and Operational Command of your applications when you migrate them to the cloud
- ◆ Mitigate the risks and improve the effectiveness of outsourced development and support resources
- ◆ Scale development and operations teams by safely involving more development staff members in the service management process

**Developers** can finally get a dashboard view all of their applications and their servers along with the health of the entire application stack.

**Using Stackify you can:**

- ◆ Automatically discover, monitor and restart applications
- ◆ Centrally view apps from all data centers
- ◆ Track changes
- ◆ See web apps, services and scheduled tasks
- ◆ Access log and config files
- ◆ Query production databases
- ◆ Monitor application and server health
- ◆ Get notifications and alerts

**Operations teams** can simplify their workload by giving developers safe and secure access to production applications and production servers.

- ◆ Provide cross-functional DevOps visibility
- ◆ Maintain security and compliance policies
- ◆ Control access rights
- ◆ Audit developer access to production systems

To get more information about *Stackify* visit [www.stackify.com](http://www.stackify.com)

## Additional Resources

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***SDTimes.com:** Stackify Gives Devs a Crack at the Production Server*

***Stackify blog:** Agile Development Requires Agile Support*

***Stackify blog:** Production Access Denied! Who caused this rule anyways?*



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