

UNDERSTANDING HOW DevOps ENABLES IT & ORGANIZATIONAL PERFORMANCE

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THIS EXECUTIVE BRIEF IS A SUMMARY OF THE REPORT:

Puppet Labs 2015 State of DevOps Report

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DEFINITION

- DevOps is a software development method that emphasizes communication, collaboration (information sharing and web service usage), integration, automation, and measurement of cooperation between software developers and other IT professionals. The method acknowledges the interdependence of software development, quality assurance (QA), and IT operations, and aims to help an organization rapidly produce software products and services and to improve operations performance. (Source:Wikipedia)

INTRODUCTION

- The fourth annual report on the state of DevOps increases the depth of knowledge on how this software development method affects IT performance.

IMPORTANT FINDINGS

- High-performing IT organizations deploy code 30 times more frequently and 200 times faster and have 60 percent fewer failures and recover 168 times faster than their low performing peers.
- The survey revealed that quality of code deployment is built into the entire process of high-performing organizations.
- IT managers are critical in effective DevOps transformation through connecting strategic objectives with team goals and precisely directing work. This is borne out by the survey data.
- The survey indicated that there was no statistical difference in performance between teams using legacy systems - mainframes - than those using new systems.
- A culture that generates high performance involves high levels of cooperation, blameless postmortems, shared risks and shared responsibilities and breaking down silos.
- A generative organizational culture means decreased deployment pain.
- Respondents to the survey indicated that effective leadership involved enabling win-win outcomes, creating feedback loops and key continuous delivery practices.
- Excellence in output and stability depends on an enterprise architecture designed for continuous delivery.
- Diversity matters in terms of DevOps culture. Most reporting teams indicated that there is a lack of females in the IT workforce including administrators and managers.
- A focus on architecture rather than other aspects of systems using DevOps principles and practices provided optimal results.
- A service-oriented architecture must give developers comprehensive feedback from automated tests that don't rely on complex integrated environments.



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IMPORTANT FINDINGS (cont)

- Burnout is most closely correlated with organizational culture, deployment pain, team leader effectiveness, organizational investment in DevOps and organizational performance that is dependent on lean management and continuous delivery practices.
- Six factors lead to burnout. They include work overload, absence of control, lack of rewards, work community breakdown, absence of fairness and conflicting values. Fixing the environment is more effective than trying to fix the person.
- The survey revealed that as the size of WebOps shops increases, low performers deploy with less frequency, medium performers do not change frequency of deployment and high performers deploy with increasing frequency.
- The results of the survey indicate that building quality into the development system - reducing batch sizes and shortening cycle times - and increasing effectiveness in managing a team's workload has a critical effect on throughput and stability.

KEY POINTS

- Lean management practices applied to software delivery result in higher quality, faster and sustainable value and they foster a culture of learning and reduced burnout.
- To determine the relationship between DevOps practices and IT performance, two throughout metrics were considered - deployment frequency and deployment lead time.
- DevOps practices improve quality and speed regardless of system type - legacy or new - if the focus is on re-architecting for testability and deployment.
- The increase of stability in the coding of high-performing teams suggests that it is being built into the software at an earlier stage.
- Effective management delegates authority through making metrics visible and actionable, delegating management of work in progress and supporting employees as they grow and learn.
- Continuous delivery practices have a significant impact on deployment pain, IT performance and fail rate.
- The survey revealed that architecture conditioned with testability and deployability delivers high performance apps regardless of whether the system of engagement was new, hybrid or legacy.
- Research shows that teams with more female members have a higher collective intelligence and produce better business outcomes. The survey revealed that gender balance is absent in the majority of software development teams.

TAKEAWAYS

- Lean management practices applied to software delivery result in higher quality, faster and sustainable value and they foster a culture of learning and reduced burnout.
- Culture is the most important factor in DevOps. IT managers must define and communicate the vision of culture and then facilitate the changes needed to achieve that vision.

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TAKEAWAYS
(cont)

- High-performance organizations were those with the greatest organizational investment in DevOps, those with effective and experienced team leaders, those focused on the degree of deployment pain and lean management practices.
- Investment in DevOps is correlated with organizational structure and culture and with performance.
- To avoid the effects of burnout, organizations should fix conditions that lead to it. Team members need to work in a supportive environment doing meaningful work that they understand as focused on strategic objectives.
- Reducing deployment pain and fear of deployment are key factors in achieving high performance through DevOps.
- Organizations that invest in training and development as well as tools have better generative culture and achieve better outcomes.

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