DevOps Is A Core Practice Of Infrastructure At Large Enterprises

Don't Let Uncertainty And Fear Hold Your Organization
Back From Achieving The Benefits Of DevOps

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DevOps Practices Are Needed In Infrastructure And Operations

DevOps has evolved into a well-established trend and culture on the application side of businesses over the last few years. However, on the operations side of the business, leaders still hold a great deal of uncertainty, hesitation, and fear. For our study, we defined DevOps practices as development and operations capabilities working together with partners and stakeholders to deliver a continuous stream of innovation into production. We surveyed IT and business infrastructure decision makers from large enterprises on this topic.

We found that infrastructure strategy decision makers at global enterprises do not have infrastructure as code top of mind when thinking about DevOps practices. They most commonly think of DevOps practices as continuous feedback and learning, collaboration, and continuous integration/continuous deployment (CI/CD)/release automation.

Key Findings

DevOps means a lot of things across the enterprise, most commonly: continuous feedback and learning, collaboration, and continuous integration/continuous deployment (CI/CD)/release automation.

Applying DevOps practices to infrastructure is a key area of opportunity for most enterprises.

There is considerable confusion and uncertainty in the market around how to apply DevOps practices to the operations environment.

Just 24% of decision makers use infrastructure as code in their DevOps implementations at their organizations; only 26% use package management.
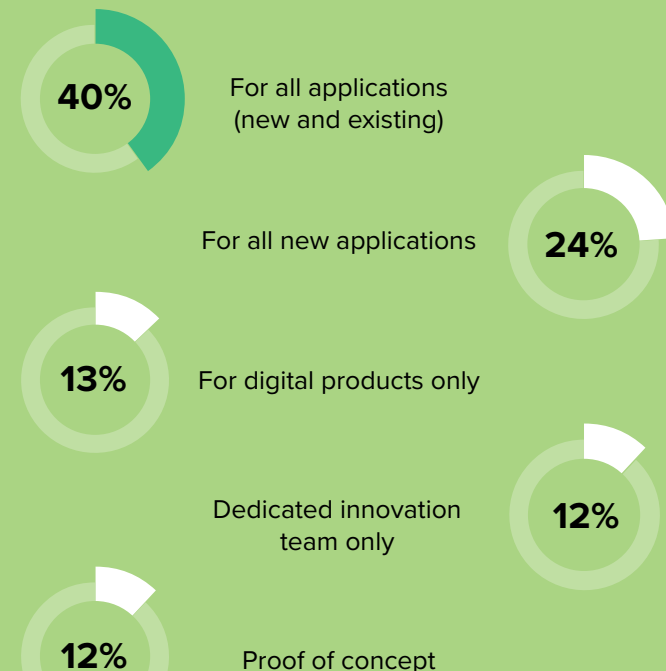
Adoption Of DevOps Practices Is Fractured

We found a split among the surveyed decision makers. Forty-six percent said their organizations are expanding or upgrading their use of DevOps practices, while 29% are planning to implement DevOps practices in the next year.

Similarly, 40% of infrastructure decision makers have fully embraced DevOps for both new and existing applications, while the remaining 60% have only partially embraced DevOps practices. Leaders perceive DevOps as difficult to retrofit, resulting in nearly a quarter of decision makers leveraging DevOps for only new applications.

However, infrastructure decision makers whose firms have already implemented DevOps practices are more likely to expand DevOps for all applications (45%) than decision makers whose firms have yet to implement (30%).

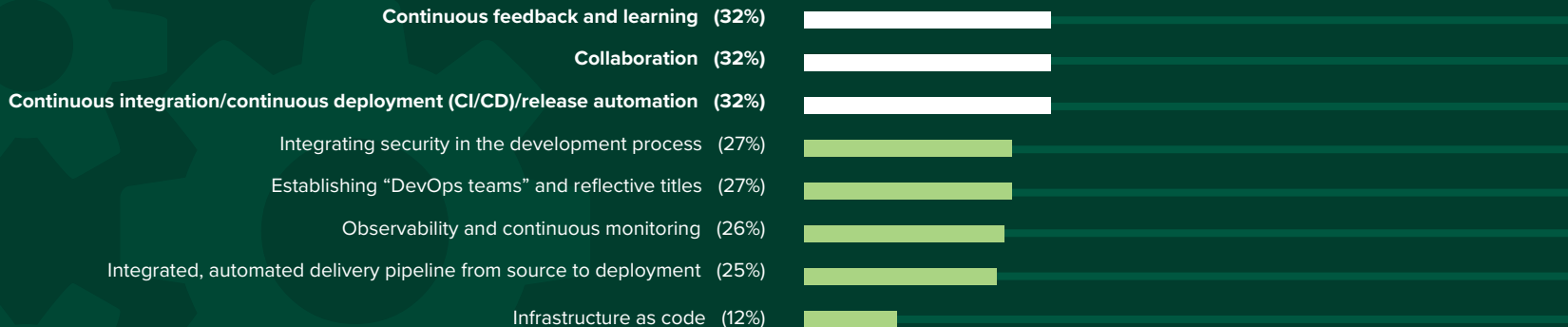**"What best describes the degree to which your organization is adopting DevOps?"**

40% For all applications (new and existing)

For all new applications **24%**

13% For digital products only

Dedicated innovation team only **12%**

12% Proof of concept

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There Is Uncertainty Around What DevOps Means

Infrastructure decision makers are still defining what DevOps means to them. DevOps is more established on the applications side of the business where it has been practiced longer. To most decision makers, DevOps means continuous feedback and learning, collaboration, and CI/CD; CD is sometimes equated with release automation (RA). This mirrors how the market traditionally thinks about DevOps.

There is a growing area of opportunity to leverage DevOps practices as part of your infrastructure and operations (I&O). Leveraging DevOps in I&O can help integrate security into your development processes, improve observability, and improve infrastructure-as-code capabilities.

Decision makers prefer commercial multicloud platforms for their infrastructure-as-code capabilities.

"When you think about DevOps practices, what does it mean to your business/role?"

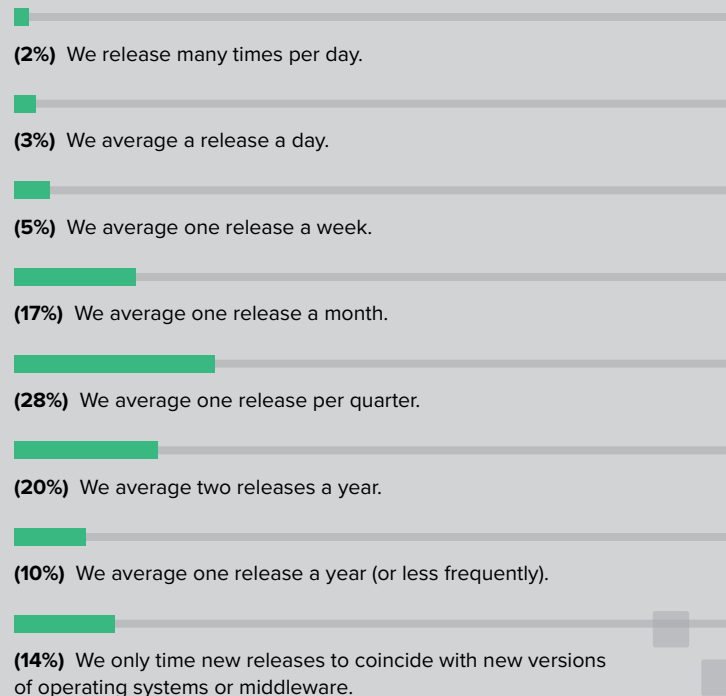|	
Continuous feedback and learning (32%)	
Collaboration (32%)	
Continuous integration/continuous deployment (CI/CD)/release automation (32%)	
Integrating security in the development process (27%)	
Establishing "DevOps teams" and reflective titles (27%)	
Observability and continuous monitoring (26%)	
Integrated, automated delivery pipeline from source to deployment (25%)	
Infrastructure as code (12%)	

DevOps Practices Drive Faster Application Release Cycles

It currently takes large enterprises too long to release applications. For almost 90% of decision makers, it takes a month or more to release an application. The remaining 10% who have shortened their release cycles to under a month can focus their saved time on innovation, rapidly conducting experiments, and delighting their customers. Large enterprises that take too long to release, update, and patch apps risk poor customer experience and even loss of customers.

Thirteen percent of infrastructure decision makers whose firms have already implemented DevOps practices can release their application in less than a month, compared to only 5% of decision makers whose firms have yet to implement.

"How often do(es) your team(s) release applications?"

(2%) We release many times per day.

(3%) We average a release a day.

(5%) We average one release a week.

(17%) We average one release a month.

(28%) We average one release per quarter.

(20%) We average two releases a year.

(10%) We average one release a year (or less frequently).

(14%) We only time new releases to coincide with new versions of operating systems or middleware.
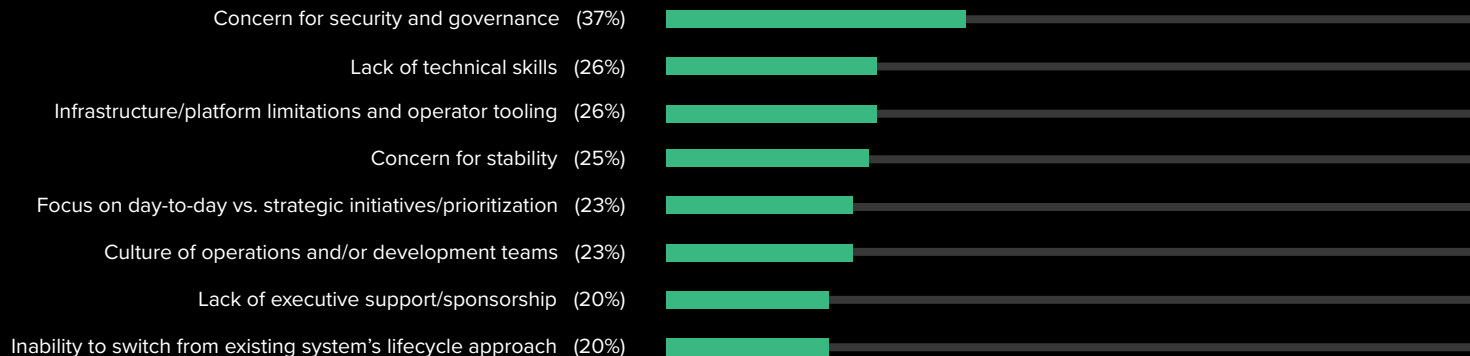

Fear And Lack Of Knowledge Are Barriers To Adopting DevOps Practices

Infrastructure decision makers are embracing DevOps practices to solve a lot of their problems, including security, automation, and observability. But fear, uncertainty, and a lack of knowledge and training are holding them back. Security is a key area where leaders want to leverage DevOps (the combination sometimes being known as "DevSecOps"), but they are afraid they do not have the right technical skills or tools and will leave gaps open to attacks.

Additionally, teams face a range of organizational challenges. Decision makers fear their enterprises do not have the culture in place or the right team structure to move fast enough to support DevOps practices. This cultural shift will require executive support from the C-level down.

"Please identify the biggest challenges your organization faces in adopting DevOps and related practices."

Concern for security and governance (37%)

Lack of technical skills (26%)

Infrastructure/platform limitations and operator tooling (26%)

Concern for stability (25%)

Focus on day-to-day vs. strategic initiatives/prioritization (23%)

Culture of operations and/or development teams (23%)

Lack of executive support/sponsorship (20%)

Inability to switch from existing system's lifecycle approach (20%)

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Enterprisewide Uncertainty Is Felt At The Personal Level Too

Build an enterprisewide DevOps culture starting at the individual level. Individual contributors have similar concerns regarding the challenges the enterprise faces. They don't feel ready or that they know enough about DevOps.

Nearly a quarter of infrastructure decision makers do not feel empowered by their organizations. This lack of empowerment is likely driven by lack of executive sponsorship. DevOps has been widely accepted at the manager and director level, but only 33% of enterprises have CIOs or CTOs as the key sponsor for their adoption of DevOps.

"Please identify the biggest challenges you personally face in adopting DevOps and related practices."

(28%) I don't feel like I know enough/I'm not ready.

(24%) I don't feel empowered by my organization.

(23%) I tend to follow trends, not lead.

(23%) I don't think we have the culture to try it at my company.

(19%) Nothing is holding me back personally.

(9%) I don't understand the goals of DevOps and how it helps me.

(9%) I'm not ready to give or listen to feedback.

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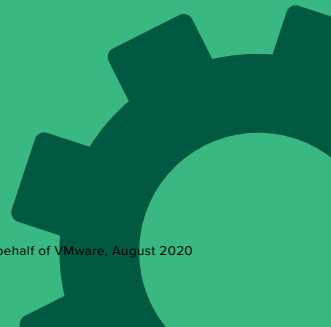
Expand Your Use Of DevOps Practices To Infrastructure As Code And Package

While most decision makers apply DevOps practices to security, CI/CD, and automated delivery use cases, only around a quarter of decision makers are applying DevOps to package management or infrastructure as code today. The traditional uses of DevOps are important, but there is a great area of opportunity to leverage DevOps in infrastructure.

"To what use cases do you apply DevOps practices at your organization?"

(48%)   Security enhancements

(48%)   Continuous integration

(45%)   Continuous deployment/ release automation

(38%)   Integrated, automated delivery pipeline from source to deployment

(28%)   Source control

(26%)   Package management

(24%)   Infrastructure as code

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Improve Business Outcomes With DevOps Practices

Not only can DevOps practices help with the traditional expectations of security, collaboration, and availability, but it can also help your enterprise better meet your business outcomes. We found that 53% of decision makers whose firms have already implemented DevOps practices exceeded their expectations for their business outcomes last year (the overall combination of financial results, customer satisfaction, and organizational effectiveness), compared to only 42% of decision makers whose firms have yet to implement.

Similarly, 89% of infrastructure decision makers whose firms have already implemented DevOps practices agree their organizations' business outcomes are increasingly well supported by technology, compared to 80% of decision makers whose firms have yet to implement.

"What benefits do you associate with adopting a DevOps way of working?"
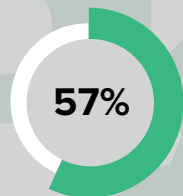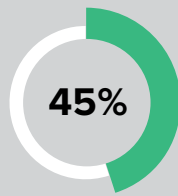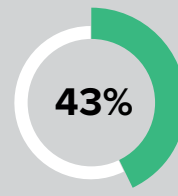
57%
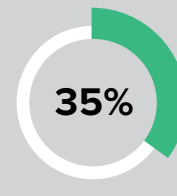Improved collaboration between development and operations

52%
Better systems security
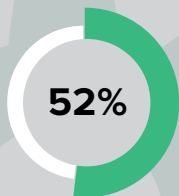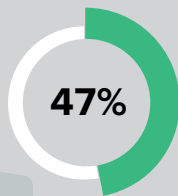
47%
Better systems availability

45%
Improved fulfilment of business outcomes

43%
Faster time-to-delivery

35%
Better audit compliance

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It is time for infrastructure and operations decision makers to fully embrace DevOps practices. Empower your team to adopt a DevOps way of working and benefit from better systems security and availability, faster time-to-delivery, and improved fulfillment of your business outcomes. Start by:

- Leveraging DevOps applied to infrastructure. There is a need in the market to support operations and the IT layer with DevOps practices.

- Empowering your individual team members to build a DevOps culture. Give them the tools and training they need to leverage DevOps practices across the enterprise.

- Finding a C-level executive sponsor to drive DevOps adoption across the enterprise. For too long DevOps has been championed at the grassroots level; it is time to bring in the business and IT leaders.

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Contributing Research:

Forrester's Infrastructure & Operations research group

Methodology

This Opportunity Snapshot was commissioned by VMware. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of 407 global IT, infrastructure, and cloud decision makers. The custom survey began and was completed in August 2020.

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Demographics

GEOGRAPHY

USA 51%

France 16%

Germany 16%

United Kingdom 18%

TOP INDUSTRIES

Technology and/or technology services 18%

Financial services and/or insurance 16%

Healthcare 13%

Education and/or nonprofits 12%

Government 12%

Manufacturing and materials 5%

COMPANY SIZE

2% 500 to 999 employees

46% 1,000 to 4,999 employees

26% 5,000 to 19,999 employees

25% 20,000+ employees

TITLES

Manager/executive in line of business 42%

Manager in IT 23%

Director in IT 21%

Other IT roles 13%

Note: Percentages do not total 100 because of rounding.

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