



## FROM ADOPTING TO ADAPTING: **5 ways IT leaders leverage cloud native application development**

Research  
White Paper

**To improve developer productivity and rein in spiraling cloud costs, enterprises are accelerating investments in distributed cloud native architectures and technologies, such as microservices and containers.** But although they are beginning to realize much-needed efficiencies of cloud native application development in a growing number of workloads, they are also running headfirst into challenges that hinder full-scale adoption across a complex enterprise cloud ecosystem.

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Increasing the pace of innovation requires continuous improvement of development processes and pipelines. To position themselves for emerging technologies such as artificial intelligence/machine learning (AI/ML), the internet of things (IoT), and next-gen data management, IT leaders need to identify and remove the barriers to implementing cloud native application development at scale. New development strategies, techniques, and skill sets are needed to capture the efficiencies of a dynamic and flexible cloud infrastructure.

A recent survey of IT and business decision-makers at large enterprises conducted by UST and Foundry sought to understand current cloud native development objectives and pain points for enterprises and development teams as they adopt cloud native approaches.

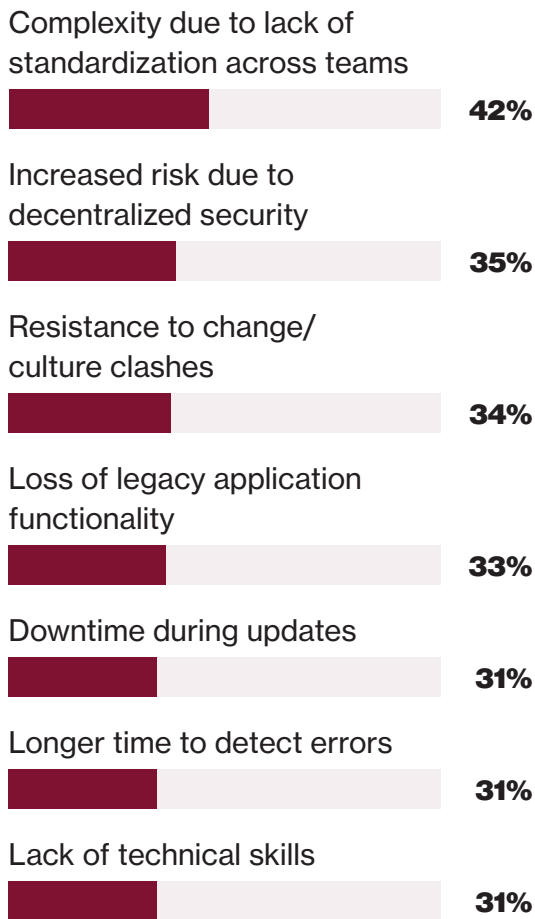
Most of the enterprises surveyed (82%) already use cloud native development approaches and tools, with only 18% representing late stragglers. Yet 95% reported that obstacles are blocking their progress toward full optimization. Among the roadblocks are legacy processes not built for the cloud (46%); skills gaps (46%); and lack of automation for testing, deployment, and monitoring (44%). These challenges are not unexpected, as they are the natural tail of a surge in cloud migrations over the last few years. However, now is the time to push past these obstacles and capture the full benefits of the cloud.

# 82%

**of the enterprises surveyed**  
already use **cloud native**  
development approaches  
and tools.

Many organizations have captured early efficiency enabled by the cloud, but fully adopting cloud native techniques makes further efficiencies available. Failing to adapt fully also carries repercussions for the business. Among them are a stark rise in complexity due to lack of standardization (42%), increased security risk (35%), change management issues (34%), and loss of legacy application functionality (33%).

**Figure 1 | Impacts of cloud native development strategies**



SOURCE: FOUNDRY

IT leaders **need to identify and remove the barriers** to **implementing cloud native application development** at scale.

DevOps teams are also negatively impacted, with tool complexity/tool overload (43%), poor collaboration with ITOps and/or SecOps (41%), and pressure to increase productivity without introducing risk (40%) cited as top pain points for development teams.

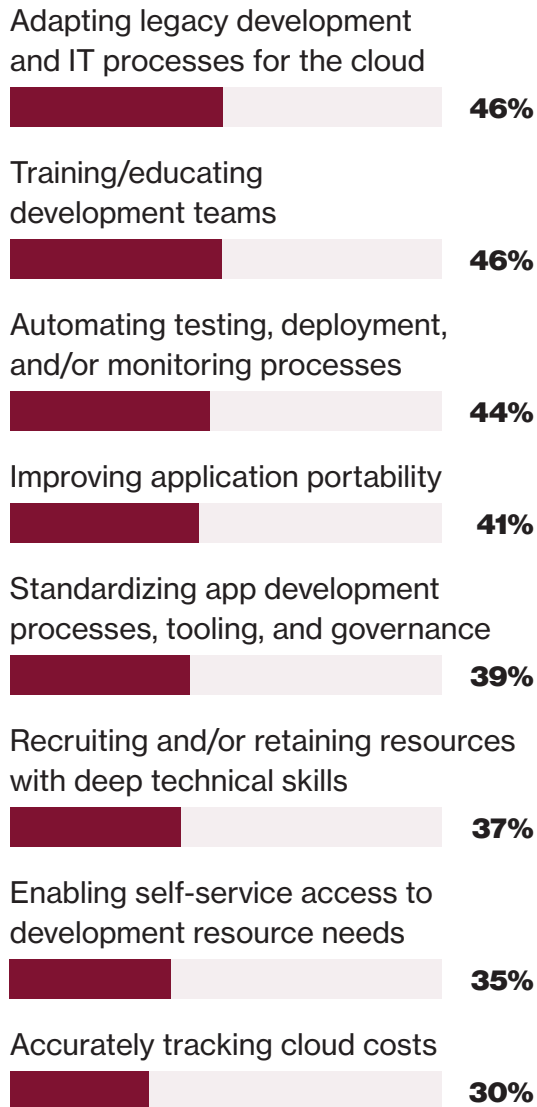
Enterprises are upgrading their strategies, tool sets, and talent mix to mitigate cloud obstacles and capture more efficiencies from full-scale cloud adaptation. This white paper explores the dominant approaches in making the leap from cloud adoption to being fully cloud-adapted.

## Sticking points

The survey pinpoints common areas where enterprises typically get stuck in their efforts to develop cloud native apps and covers the ensuing negative business impacts.

A majority (95%) reported that obstacles hinder their ability to reap the full benefits of cloud native development. Top challenges include legacy processes not built for the cloud (46%); skills gaps (46%); and a lack of automation for testing, deployment, and monitoring (44%).

**Figure 2 | Challenges in maximizing the benefits of cloud native development**



SOURCE: FOUNDRY

Legacy processes continue to vex business outcomes as companies trade future benefits for familiar turf. Moving these processes to the cloud changes where they reside but does little for a company’s business goals or overall competitiveness. Persistent labor and skills shortages continue to maintain the skills gap, and insufficient process automation wedges the door open even farther.

Failing to overcome these challenges leads to significant business impacts such as amplified complexity due to lack of standardization (42%), higher security risk (35%), change management issues (34%), and loss of legacy application functionality (33%).

## Pressure points

Given these persistent cloud native development challenges, a rise in pressure points is inevitable. Business impacts include:

- **Changes in DevOps responsibilities and how developers are impacted by cloud native development challenges**

- **Barriers to scalability and the resulting implications**
- **Change management issues**
- **Loss of legacy application functionality**

Meanwhile, cloud costs continue to escalate as business users rely on familiar but inefficient application architecture. In many users' eyes, productivity increases in proportion to app familiarity, which leads to a reluctance to change. Nearly a third (31%) of surveyed enterprises will seek third-party help in changing the culture and mindset, including education and training, to move users toward a quicker and smoother transition while developers strive to minimize disruption.

Cloud native development challenges also impact development/DevOps teams. For example, developers at nearly half (45%) of the surveyed enterprises were tasked with growing security responsibilities despite time, tool, and budget limitations. Additional top pain points for development teams include:

- **Tool complexity/tool overload (43%)**
- **Poor collaboration with ITOps and/or SecOps (41%)**
- **Pressure to increase productivity without introducing risk (40%)**

## **Benefits of cloud native**

Cloud native techniques exploit cloud infrastructure's flexibility for refactored legacy applications and greenfield deployments. For example, leveraging Kubernetes for container orchestration delivers substantial advantages by automating deployment, management, and scaling of microservices. Those benefits include cost savings, increased DevOps efficiencies, deployment across multi-cloud environments, reduced vendor lock-in, app stability and high availability, and automated deployment and scalability.

It comes as no surprise that respondent adoption and evaluation preferences include microservices (60% are used within an application environment), low code/no code technology (57%), serverless computing (55%), and Kubernetes.

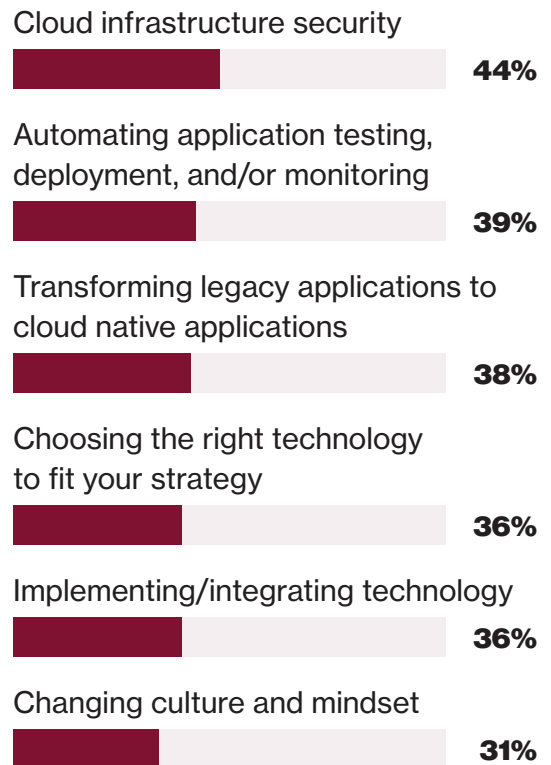
Just under half (49%) have adopted Kubernetes in one or more areas of their application environment, and 41% are evaluating or planning to evaluate containers. But issues are choking these efforts, too. Leading the list of issues blocking or slowing wider adoption of Kubernetes are integration challenges (39%), storage complexity (39%), lack of visibility (37%), and reliability concerns (35%).

### Third-party support trends

Given the increasing complexities of reining in cloud usage and costs, many enterprises are turning to third parties to manage the necessary changes and/or maintain cloud native development going forward.

Respondents cited cost efficiency (47%) and increased agility for meeting business and customer needs (46%) as their top business goals. Prevailing strategies focus on speed as companies rapidly seek to complete cloud adaptation efforts. Third-party sourcing is the leading option. Most of the surveyed decision-makers (97%) indicated that their organization is likely to seek the expertise of third parties over the next 12 months to support cloud native development needs.

**Figure 3 | How could a third party benefit your organization over the next 12 months?**



SOURCE: FOUNDRY

Third parties are likely to be sourced to help secure cloud infrastructure (44%); automate application testing, deployment, or monitoring (39%); transform legacy applications for the cloud (38%); choose technology (36%); or implement/integrate new technology (36%).

Third-party options for this work include independent developer groups, value-added resellers (VARs), managed service providers (MSPs), consultants, trainers, and other professional services. Many enterprises prefer to partner with providers that are able to customize services and technologies to help make an impactful global transformation.

## Summary

Although the majority (82%) of enterprises surveyed already use cloud native development approaches and tools, most are making little headway. A whopping 95% are encountering obstacles in harvesting the full benefits of cloud native development, despite adopting cloud native technologies such as microservices, low code/no code technology, and serverless computing.

Legacy processes are bogging down efforts for 46% of responding enterprises and sometimes lead to breaking some of the most valued features in the move. Other challenges also persist, including skills gaps (46%) and lack of automation for testing, deployment, and monitoring (44%). Combined, these and other challenges lead to negative business impacts such as complexity due to lack of standardization (42%), increased security risk (35%), change management issues (34%), and loss of legacy application functionality (33%). In turn, developers are further strained by these challenges, due to the resulting increased scope of security responsibilities, tool

# 97%

**of the enterprises** are **actively seeking a third-party partner to support their cloud native development needs** over the next 12 months.

complexity/tool overload (43%), poor collaboration with ITOps and/or SecOps (41%), and pressure to increase productivity without introducing risk (40%).

These challenges create pressure points that fester into frustrations that are not easy to relieve through the current course of action. This, in turn, leads most enterprises (97%) to actively seek a third-party partner to support their cloud native development needs over the next 12 months.

The goals in third-party sourcing are to obtain help in securing cloud infrastructure (44%); automating application testing, deployment, or monitoring (39%); transforming legacy applications for the cloud (38%); choosing technology (36%); or implementing/integrating new technology (36%).



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