



# Navigating the DevOps Skills Gap



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## A Seismic Shift

Evolving customer expectations for digital experiences are increasing demands on DevOps teams.

To remain competitive today, businesses must deliver a robust digital experience at every customer touchpoint.

Boardrooms around the world are actively engaged in executing their digital journeys. Consider the following:

- The global digital transformation market is expected to grow at a CAGR of 16.5% from 2020 to 2025, exceeding \$1 trillion in total value.
- The leading drivers of digital transformation are market pressures, with 51% of companies' efforts arising out of growth opportunities, and 41% out of increased competitive pressure.
- Digitally transformed organizations are expected to contribute to more than half of the US GDP by 2023.

Fundamental to their mission is the development of innovative applications and software products that power digital experiences. To accomplish that, the developers and engineers responsible for building and delivering highly engaging digital software and applications need access to infrastructure that's growing increasingly complex. They need it quickly. And they need it often.

These trends are changing how organizations view engineering and IT. As the pressure mounts on the organization to deliver high-quality products more quickly, IT is a direct contributor to the corporate strategy. That also means engineering and IT will be held accountable for making that happen.

## The need for speed is hitting a brick wall

When it comes to accessing infrastructure, there's no time to wait.

All around you, competitors are leveraging software, apps, and other digital tools to compete in the marketplace. Application release times are critical milestones as organizations rush to deliver new products and features for a customer base that expects—rather, demands—a superior, uninterrupted user experience. Anything less, and customer loyalties start to wane.

This need for speed to market has led engineering teams to embrace complex software stacks that span public cloud infrastructure and services, containerized infrastructure, and Infrastructure as Code (IaC) tools that help teams build more advanced products more rapidly.

Managing this infrastructure effectively requires a unique combination of both coding and infrastructure engineering skills across a variety of technologies and tools.

Today, many organizations struggle to find and retain the people with the skills to design and deliver the environments their teams need. In one survey of 500 developers, DevOps, and IT decision makers, 85% reported facing barriers to implementing DevOps. The most common barrier—ahead of legacy infrastructure and adjusting corporate infrastructure—was a lack of skills in employees.<sup>4</sup>

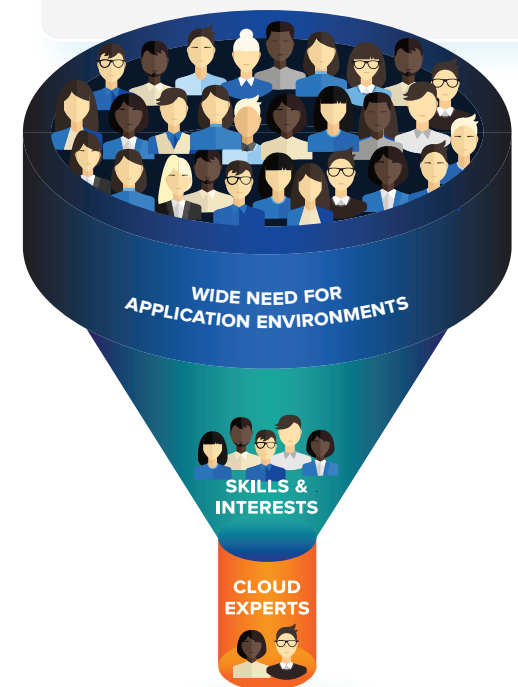
## How big is this gap?

For many companies, it's common for hundreds of developers to submit requests for infrastructure to just a handful of qualified DevOps people who can fulfill them.

As a result, developers end up waiting days or even weeks to access the environments they need, creating delays that drag out application release times.

Frustrated with the wait, some developers may attempt to circumvent DevOps and provision their own environments. But with a limited skillset and little understanding of infrastructure best practices or governance standards, these environments can create security risks, performance issues, and cloud cost overruns.

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## Adding more head count comes at a cost

For many, the answer is to hire more skilled DevOps people to deliver the infrastructure their teams need. But at what cost? With these skills in such high demand, the salary demands alone will quickly drive up costs, creating a drag on the bottom line that exacerbates pressure on IT and engineering to support a profitable digital strategy.

In the meantime, the provisioning backlog continues to build up, deadlines are missed, and priority projects are delayed. The burden on DevOps can become unbearable, making it even more difficult to retain the most valuable contributors—especially as your competitors offer higher pay for their coveted skills.

Any ensuing turnover compounds the pressure on your remaining staff, who are already struggling to support release deadlines. As they quicken their pace or extend their working hours, bugs creep into software, frustrating customers and hurting profitability.

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1 <https://www.globenewswire.com/news-release/2020/08/14/2078517/0/en/The-World-s-Digital-Transformation-Industry-2020-2025-Trends-Opportunities-and-Competitive-Landscape.html>

2 <https://www.prophet.com/wp-content/uploads/2019/03/state-of-dt-report.pdf>

3 <https://financesonline.com/digital-transformation-statistics/>

4 2020 DevOps Trends Survey. Atlassian and CITE Research.



## Maximizing DevOps skills with an Environments as a Service approach

Closing the skills gap starts with eliminating the repetitive, manual work that slows your teams down. Today's organizations need to get more mileage out of the work that their skilled DevOps and IT people deliver.

But how?

Modern DevOps and IT teams are adapting to this trend by taking an Environments as a Service approach. This consists of three primary components.

### 1. Taking control of all infrastructure assets

Many organizations have amassed significant libraries of infrastructure and application configurations with tools including Terraform, Helm, Ansible and the like. These libraries contain valuable IP and knowledge, but often become difficult to manage at scale. As DevOps and IT teams grow and mature, the process of keeping all assets up to date with the proper infrastructure, configurations, and dependencies can be a significant drag on productivity.

An environments-as-a-service approach incorporates an automated control plane that makes it easy to discover and import the IaC assets directly from the asset repositories that these teams use, such as GitHub, GitLab, and Bitbucket. This is especially helpful for environments that contain multiple configurations across multiple tools, such as Terraform, Helm, and VMware.

Those with the skills to build and deliver these complex environments no longer need to sort through a vast library of infrastructure assets and can focus instead on delivering the complete environments that their teams need.

### 2. Make infrastructure provisioning repeatable

With control over the infrastructure, the next step is to eliminate the need to provision the same environments repeatedly. In an environments-as-a-service approach, DevOps teams accomplish this with blueprints.

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Blueprints—which are repeatable templates containing all the components and configurations needed for a complete environment—encapsulate the specialized skills, knowledge, and design expertise of your infrastructure experts. This allows them to provision environments once so the rest of the organization can deploy repeatedly.

The blueprint model also provides a single place for DevOps people to modify infrastructure or policies as needed, with the assurance that those changes will be reflected in all environments launched thereafter.

### 3. Creating self-service access so developers can deploy environments on-demand and automatically as part of the CI/CD pipeline

This approach scales via self-service access to these environments for the developers, testers, and other end users who need them.

Because blueprints are easily provisioned to any user, the user leverages the knowledge and skills contained in the configuration without having to know anything about how the configurations were built or what they contain. Users get a simple “click and go” reality to access infrastructure.

Integrating these environments within a CI/CD tool can further simplify this process by setting the pipeline to automatically deploy an environment at the onset of a specific stage and automating shutdown once that stage is complete.

Developers neither need to wait for access to infrastructure nor attempt to deploy it themselves. Meanwhile, highly skilled DevOps and IT staff are free to devote their time to more valuable projects.

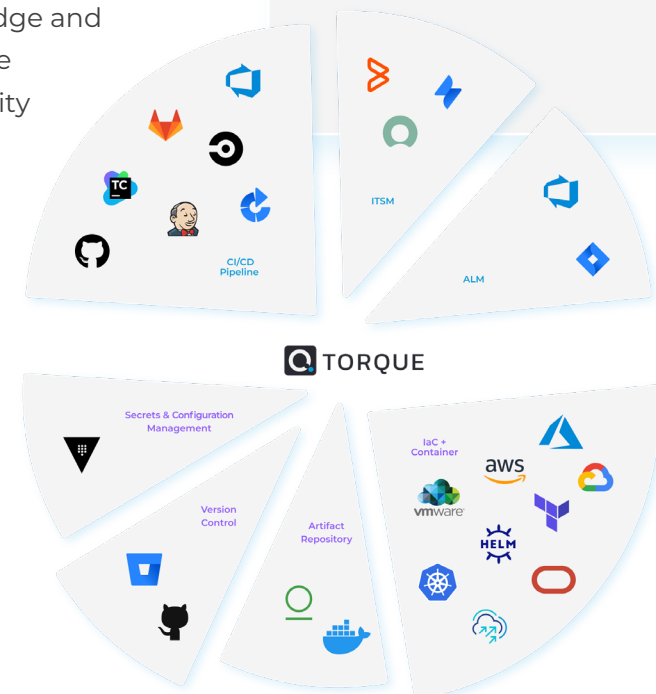
### Ready to get started?

To see how an environments-as-a-service approach could help your organization, [create a free trial here](#)

You can also book a [personalized demo to learn more](#)

## The CI/CD pipeline

Torque integrates seamlessly with CI/CD tools, with automation that launches specific environments at the right stage of the CI/CD pipeline. Once usage is complete, the environments shut down automatically.





## About Quali

Headquartered in Austin, Texas, Quali provides the leading platform for Environments-as-a-Service infrastructure automation solutions, helping companies achieve freedom from infrastructure complexity, so they can operate with velocity. Global 2000 enterprises and innovators everywhere rely on Quali's award-winning CloudShell and Torque platforms to create self-service, on-demand, automation solutions that increase engineering productivity, cut cloud costs, and optimize infrastructure utilization. For more information, please visit [quali.com](https://quali.com) and follow [Quali](#) on [Twitter](#) and [LinkedIn](#).

