

Climbing Up the Stack

*As Cloud Strategies Grow More Complex,
Developers Seek the Ease of Abstraction*

CLOUD  **FOUNDRY**

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With community support from:



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Introduction

The enterprise is no longer weighing its options when it comes to the cloud – cloud is here, it's ubiquitous and it's forcing real change across every industry. In fact, 72 percent of IT decision makers agree cloud technology is increasingly more commoditized and standardized. But as enterprises implement new cloud native technologies and pull in a variety of solutions to meet their business goals, the IT environment becomes more complex, giving developers more responsibility – and more influence – than ever before.

Our research¹ shows teams are looking up the stack for tooling and technologies to help them leverage their choice of cloud – or clouds – as more than 60 percent of large enterprises report hosting their IT infrastructure in a multi-cloud environment. Faced with an increasingly complex, multi-cloud environment, developers are turning to technologies that abstract away the complexity and provide consistency across platforms.

Developers are rising in the ranks of enterprise decision-making, driving IT investment strategies and making their presence known in areas of business once considered tangential to their skillset. The last wave of our research showed a majority (59 percent) of companies are giving developers more authority to choose the tools they use. The ascension of the developer as an IT leader didn't happen overnight – it dovetails closely with mass cloud adoption, as more credence is given to technology decisions and developers are in the best seat to call the shots.

The rise of the developer and the commoditization of cloud go hand-in-hand. As IT environments grow increasingly complex, enterprises lean hard on the experts in the room: developers, who are pivoting back up the stack as they seek out ways to simplify their work flow and boost productivity.

¹ The survey consisted of 505 interviews of IT professionals and execs, covering seven geographies (China, Germany, India, Japan, South Korea, the UK, and the US) and was offered in five languages corresponding to those geographies. The data was weighted evenly across three regions, Asia, Europe, and North America, to correspond with past waves of research. While margin of sampling error cannot technically be calculated for online panel populations where the relationship between sample and universe is unknown, the margin of sampling error for equivalent representative samples would be +/- 4.8 percent. The sample was distributed across four major ITDM roles and the proportions were weighted to reflect consistency with past GPS waves. The breakdown of roles is as follows: Dev/DevOps (30 percent), Ops/Architect (30 percent), CIO/CIOs/Line of Business (25 percent), and IT Managers (15 percent). This mix of company size is as follows: 35% SME (<1K employees), 65% Enterprise (1K+), 23% Large Enterprise (10K+). To ensure the highest quality respondents, surveys include enhanced screening beyond title and activities of company size (no companies under 100 employees), cloud IT knowledge, and years of IT experience.

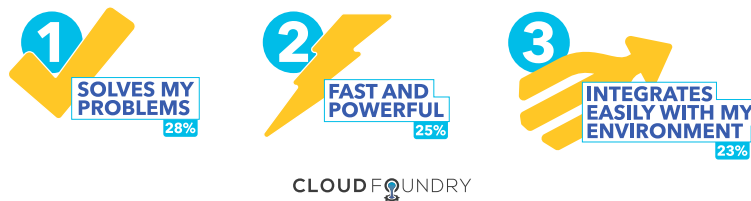
Laying the Groundwork: What Developers Want

CHOOSING A NEW TOOL

Developers want pragmatic solutions that are fast and integrate easily with their environments. Indeed, when we asked respondents to identify the most important factors they consider when selecting a new tool or technology, 28 percent of developers cited “solves my problems” as the most important factor.

Developers also crave a consistent experience centered around flexibility and integrations with other tools. The second- and third-most cited factors that developers consider when making a technology decision are “fast and powerful” attributes at 25 percent and “integrates easily with my environment” at 23 percent.

WHAT'S IMPORTANT IN A NEW TOOL?



FEATURES THAT FOSTER PRODUCTIVITY

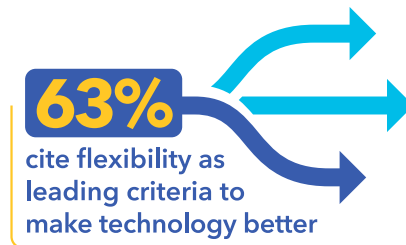
Features that drive productivity are also critical to developers. Productivity is a prevailing requirement for developers and they seek out features that will enable that outcome, according to our research. When asked how they want to feel when using a tool or technology, 46 percent of developers choose “productive.”

Given the importance of productivity, it’s unsurprising to find that reliability is the highest scoring attribute for building trust in a tool or technology. In fact, 66 percent of developers say “reliability” is the most important factor to building trust in a tool or technology – twice as many as the next top factor, which is “does what it claims to do” (33 percent). Maturity also helps build trust, with 25 percent of developers ranking it as the most important factor.



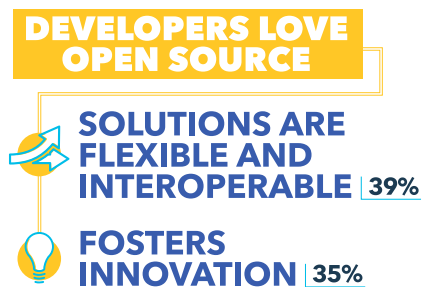
FLEXIBLE SOLUTIONS

Our research also uncovers what developers consider to be the leading criteria that makes any given technology better. Flexibility stands out, particularly as it contributes to a developer's workflow. Almost two thirds, or 63 percent, of respondents tell us that a technology's ability to integrate with their environment is the touchstone that makes technology better.



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Open source solutions particularly satisfy developers' desire for flexibility. In fact, the number one reason developers say open source is important to them is because "solutions are flexible and interoperable" (39 percent) followed by "fosters innovation" (35 percent). Open source flexibility gives developers the freedom to create and provides a better workflow for developers.



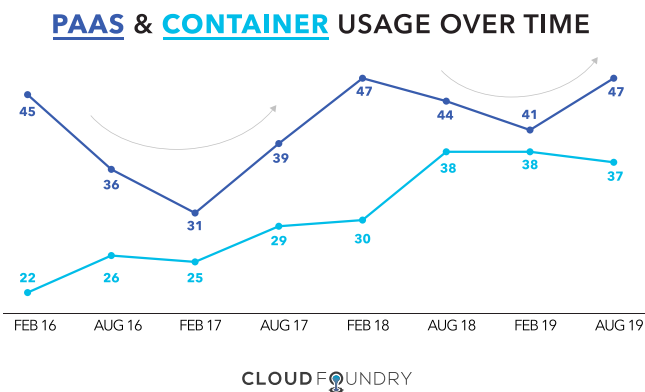
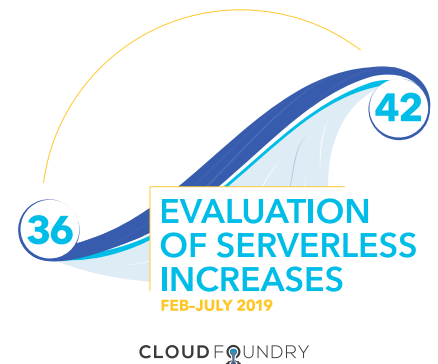
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Looking Up the Stack: Abstraction Leads to More Control

Ultimately, developers want to excel in their jobs as efficiently as possible, with technologies that provide solutions, integrate into their current environments and deliver reliable, consistent outcomes. As cloud steadily rises, developers are seeking out higher levels of abstraction in order to gain greater control over the tools they use to deliver apps and achieve business objectives.

For several years, our research has tracked the multi-platform trend in which developers employ a bespoke combination of Platforms-as-a-Service (PaaS), Functions-as-a-Service (FaaS or “serverless”) and containers to achieve their respective goals. PaaS usage has grown to 47 percent in July from 41 percent in February, while serverless usage and container usage remain steady at 14 percent and 37 percent, respectively. Teams using containers have deepened their deployments, while teams evaluating serverless have risen 6 points from February to 42 percent in July.

Container usage has stabilized after a notable uptick from 2016 to 2018, though those who use containers are deepening their deployments. At the same time, our data shows developers are once again seeking out higher levels of abstraction – such as PaaS and FaaS – that let them focus more on writing applications. In fact, 30 percent of respondents say their organization has plans to evaluate serverless within 12 months, up 11 percentage points over the same time period. Cloud Foundry and other PaaS solutions are well-positioned for this abstraction across multiple technologies as they weave through potential complexities and deliver many of the features that developers covet most: maturity, consistency, security, flexibility and integrations.



PLATFORM ASSETS

As developers move further up the stack, they are seeking specific traits in a platform that will abstract away the complexities they face. When asked what values a platform would add to their team's ability to develop software applications, developers emphasized maturity, consistency and integration.

A majority (69 percent) of respondents said a proven, mature platform with stability, scalability, and observability to run business-critical apps in production at scale is of real value. A platform that delivers a consistent experience for the developer is of real value for 65 percent of respondents. Another 59 percent said a platform that integrates new innovations when they are mature and enterprise-ready would add value to their team's ability to develop software applications.



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Developer Workflow, Business Cash Flow

With developers playing an imperative role for the enterprise, they are often expected to make the business case for new tools or technologies in production. We've established that developers are looking for solutions that offer the speed and flexibility they need to make their workflow as simple and productive as possible, but considerations like cost and security are not to be overlooked.

Nearly one in two developers (48 percent) say they need to provide leadership with details around security features, while 38 percent say they must establish a proof of concept to compel their business to invest and 37 percent must provide specific business use cases.

Tools that reduce costs have the upper hand. For example, the leading benefit developers expect from serverless technology is lowered costs. That benefit ranked higher (48 percent) than increasing the speed by which developers could develop and deploy code (44 percent).

What are the implications? Developers may prioritize productivity, flexibility and integration in their own technology choices, but as they gain influence as internal stakeholders, they are expected to choose technologies that mean lower costs to the bottom line.

HOW DEVELOPERS MAKE THE BUSINESS CASE

- 1 SECURITY FEATURES 48%
- 2 PROOF OF CONCEPT 38%
- 3 BUSINESS USE CASES 37%

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Developers Lead Businesses Through Big Changes

As enterprises have locked in their digital transformation strategies, they've come to rely more and more on developers' technical expertise. Developer skills have enabled the mass adoption of cloud and experimentation with a diverse set of cloud native technologies. But as cloud environments get more complicated, these same developers are looking for solutions that meet business goals, come in under budget and facilitate productivity, flexibility and consistency.



Developers are increasingly looking up the stack for higher levels of abstraction to simplify their workflow, turning to solutions like PaaS and serverless to deliver results.

