The road to Multicloud



INTRODUCTION

The road to Cloud Nirvana, so to speak, is not an easy one. It is paved with many a broken EC2 instance, S3 buckets left exposed to the web, and a whole lot of poorly-written YAML.



Increasingly, however, that road doesn't just pass through Amazon. It passes through *many* clouds. And justifiably so—many businesses will have many specific use cases for their work, and sometimes there's a service for precisely that. And it may be that Amazon, while it runs an absolute alphabet soup of cloud services, doesn't have quite what you need.

Microsoft Azure stands the most to gain in this many-a-cloud future. And, indeed, it shows up in the numbers. This year, Microsoft announced that Azure revenue had grown **48% year-over-year in Q1 2021** compared to the same quarter last year. Microsoft's Intelligent Cloud division (which also includes services like GitHub) accounted for **\$13 billion** of its \$37.2 billion in revenue.



48% Azure YoY revenue Q1'21 vs Q1'20 **\$13** billion Microsoft's Intelligent Cloud division revenue



INTRODUCTION



Companies like Thomson Reuters are **finding themselves looking to upskill their employees in more than one cloud infrastructure** — not just AWS. Even **massive institutions like GE** are working to build a multi-cloud approach to moving their operations into the cloud.

To see how things are changing, we analyzed data on more than 600,000 course completions across hundreds of courses. We also conducted multiple surveys of cloud administrators and advocates to see the most important cloud skills across 700 respondents. We viewed a snapshot of our top Azure and AWS courses, creating a basket of companies that had completed both Azure and AWS courses to see what percentage of completions accounted for each cloud platform.

In particular, we see that the road often goes through Azure—if not wholly, then as a partial detour. We increasingly see a world where companies don't just use multiple clouds—they use various clouds, **and they all play well with each other**. (Whether the most prominent providers are begrudgingly accepting it or wholly embracing it is a whole other open question.)

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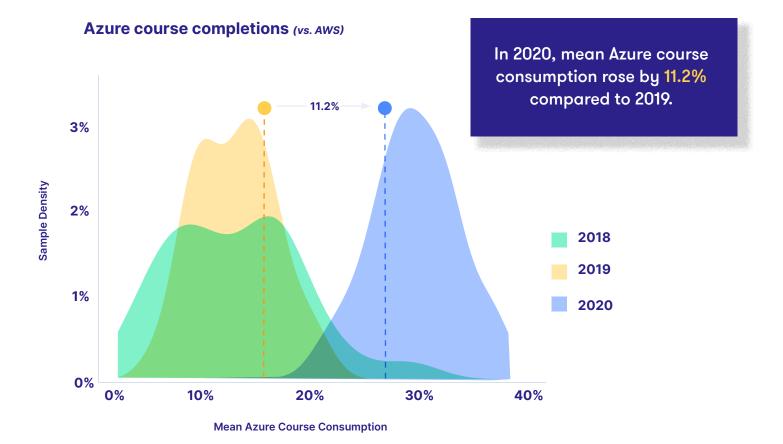
The new cloud curriculum

THE NEW CLOUD CURRICULUM

e compared a slice of our most prominent Azure- and AWS-focused courses to see where learners were investing their time to grow their cloud skill set. This set excluded more general technical classes (such as Kubernetes or Serverless) and focused on those clouds' specific content.

When you look at what learners prioritized in 2019 and 2020, we can see a shift in consumption toward Azure. Specifically, we looked at the number of course completions for courses associated with those clouds—and the share that Azure held compared to Amazon.

Amazon, of course, has an absurd lead on Azure. But Azure is gaining momentum.



THE NEW CLOUD CURRICULUM

Over time, we have gone from many companies completely ignoring Azure to a solid baseline of Azure completions in our basket of courses. The mean share of course completions attributed to Azure has shifted solidly to the right by as much as 15 full percentage points, depending on the sample.

And indeed, we can see that the share of companies that are placing an increased focus on Azure is becoming more diversified—with some even focusing the majority of their efforts on Azure. This is an extremely small share of companies—it practically doesn't appear in most of our samples—but that it occurs at all does provide a small glimpse of the future of a heavy emphasis on Azure. The mean share of course completions attributed to Azure has shifted solidly to the right by as much as 15%





Demanding times

But that's what our learners are doing *at the moment*. There's also another open question—what do companies want their learners to do?

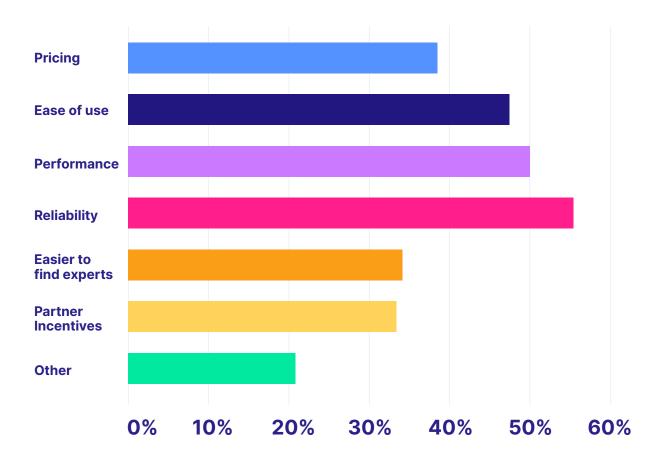
To consider this, let's return to the alphabet soup: if the future of cloud computing is niche services all the way to the bottom, there's simply no way that one infrastructure can account for every single possible use case. It opens the door for alternate cloud providers (including those beyond Azure, like Oracle or Google) to fill pockets that Amazon can't cover. And of course, the reverse is true—Amazon has an enormous amount of data and can spot primary use cases, and occupy those as it sees fit.

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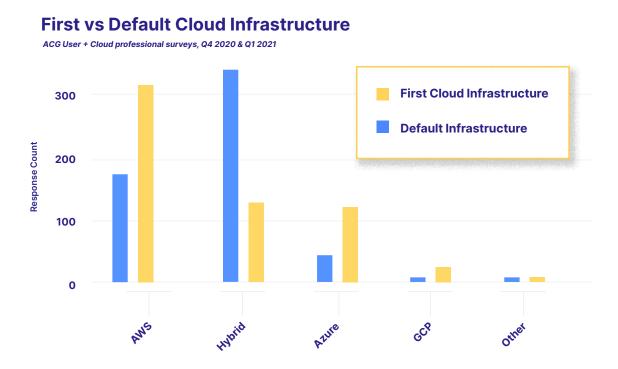
But it's because of that diversity of needs that multicloud becomes increasingly viable. A company may find the best approach is a combination of many tools across multiple providers. But it also encourages competition across providers if the same tools exist, forcing them to compete on price, convenience, and many other factors. And if it's possible to swap tools between providers (maybe in some alternate reality where the cloud is simple), the box itself becomes irrelevant and it's the user experience that drives adoption.

Responses to a 600-person survey

When we look at exactly **why** these companies prefer their *current* default cloud infrastructure (Azure, AWS, or otherwise), responses to a 600-person survey spanning admins and cloud professionals were fairly consistent and comprehensive. The top reason was reliability (obviously table stakes) ahead of performance, ease of use, and pricing. In a world where multi-cloud is the way forward, reliability across platforms should be equal—or, simply, not crashing or getting hacked all the time.



Why companies prefer their current default cloud infrastructure



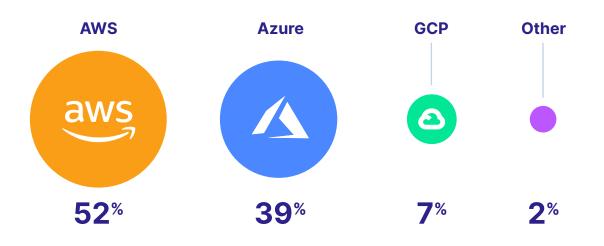
We see this shift in demand for new experience now, as well. In the survey, we found that most respondents—about 60%—indicated AWS was their first cloud infrastructure. And they also still suggest that it is their most in-demand expertise (52%). This snapshot was taken at the front of 2021, and the current state-of-affairs for cloud expertise was not that far off.

However, while the world in the front of 2021 looks very different than July 2020 for a number of reasons, we found **at the time more than 70% of administrators** identified AWS as the primary cloud platform used within their organization, with Azure less than 10% and GCP below 5%. Fast forward to today, where around one fifth of respondents said it was their first cloud infrastructure, while roughly the same amount said it was their current default infrastructure. 38% of total respondents saying it was their most in-need expertise.

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Most In-Demand Expertise

ACG User + Cloud professional surveys, Q4 2020 & Q1 2021



That's still a considerable lag compared to Amazon. Many respondents also indicated GCP expertise was critical, though roughly negligible when compared to Azure or AWS. But we continue to see indicators that the world is moving toward Azure and, with it, toward multicloud. (Of course, survey results may vary from each other—as is the nature of asking a lot of people stuff a lot at different times—but we see similar forward progress in our own data.

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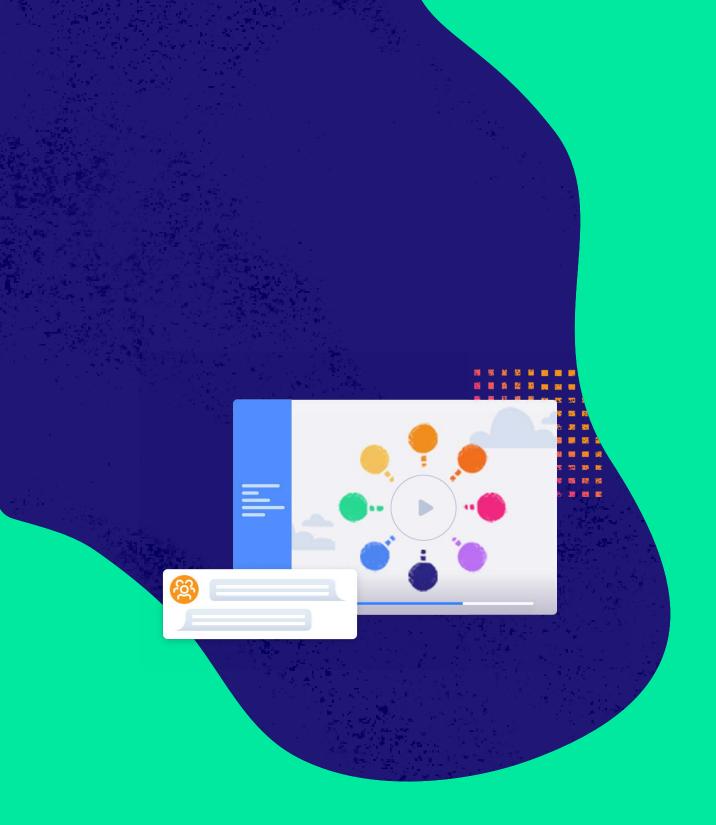


An Azure ocean I n our analysis, we found that Azure was building momentum. But we're a very, very far way off from saying Azure is *the* go-to cloud infrastructure. Not only was Amazon first, but it also continues to be one of the best options. But, as we saw at AWS Re:Invent, Amazon itself (with former AWS head now at the helm in place of founder Jeff Bezos) seems to be readying itself for a multi-cloud world.

But time on the Internet isn't measured in years—it's measured in seconds. And every incremental product that each release doesn't just allow one to eclipse the other. It continues to give developers and companies an arsenal of tools to shift their operations into the cloud.

And shifting to the cloud delivers substantial returns, too. In **a separate analysis** of **90 publicly-traded companies across 20 dimensions**, we found that the revenue and market cap growth of companies that heavily invested in the cloud considerably outpaced those that did not. But in that analysis, we didn't necessarily differentiate between Azure, AWS, Google Cloud, or even others like Alibaba Cloud or Oracle Cloud.

In the end, the cloud is really what you—or we—make of it. It's a kind of blue ocean of opportunity, enabling your team to move faster, more efficiently, and build better products throughout the whole time.



Methodology

METHODOLOGY

In an analysis of our own customers, we found that there is indeed a shift toward usage of Azure (p < .07) when comparing 2019 and 2020.

In our analysis, we sampled 500 anonymized customers randomly five times to look at the distribution of courses they had completed. Courses were segmented into AWS or Azure based on their descriptions and components. This involved a catalogue of hundreds of courses that we then analyzed to determine what share of completions fell under Azure or AWS.

For the purposes of this analysis, we excluded common DevOps courses like Docker or Kubernetes, as well as Google Cloud-specific courses, as they still represent a very small share of our course completions (though also growing!).

Our survey involved roughly 800 total responses from admins, executives, and other cloudfocused professionals across a variety of industries. Respondents were surveyed on three different questions: their default infrastructure, their initial cloud infrastructure, and what infrastructure they need the most.





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