

Deutsche Börse unlocks the benefits of moving to the cloud

Businesses that approach their cloud migration from purely a cost angle are missing its full value. Deutsche Börse's experience suggests that the first question to consider is, "Which business benefits can be unlocked?"



Migrating to the cloud, once seen as an option, is now viewed by most businesses as an absolute necessity. The corporate landscape is littered, however, with failed cloud migrations. Deutsche Börse is charting a path around the common pitfalls by adopting a multicloud approach, knowing what belongs in the cloud and what doesn't, and taking a broad view of transformational benefits. Deutsche Börse executive board member, CIO, and COO Christoph Böhm recently discussed his company's cloud-transformation journey with McKinsey's Harald Kube and Christoph Fuchs.

Christoph Fuchs: With many less-complex financial-services companies still struggling to make the move into the cloud, what inspired you to take this bold step?

Christoph Böhm: Few financial-services firms have the scale, capability, and capacity to set up sophisticated, highly automated IT infrastructure services while still keeping pace with innovation. Moreover, it makes no sense to spend a fortune operating complex clusters of infrastructure to run advanced simulation models simply to try out new ideas. But the public cloud makes this possible for everyone, so it seemed like a sweet spot for us. I've experienced cloud benefits firsthand throughout my career and witnessed how such an ecosystem allowed customers to scale and leverage an easy path to innovative services.

In our growth strategy, "Roadmap 2020," the cloud plays a major role as an enabler for other areas such as distributed ledger technology, automation, and big data. We follow a multicloud approach at Deutsche Börse to reap the greatest benefits from existing cloud ecosystems. On the one hand, this approach allows us to reduce the risk of depending on a single hyperscaler as the only provider. On the other hand, it allows us to optimize our landscape by choosing the most innovative service providers for each of our applications.

So we intentionally set up cloud environments at various providers and often let the development teams decide where to put their workloads. Those decisions are based on the experience of the team,

which platform can best run a given workload, and the dependency on other applications, such as the need to share data among applications with certain latency requirements. To help the teams select the right cloud option and technology stack, we rely on a strong central governance for life-cycle management (based on a cloud-native development approach), regulatory compliance, and security frameworks to guide our decisions.

Christoph Fuchs: What challenges did you face during the initial transition?

Christoph Böhm: Any big change always involves obstacles, but most can be overcome by investigating them in detail. For example, uncertainty about regulatory requirements can be addressed by establishing a dialog with the various stakeholders, such as working jointly with other financial institutions to run a group audit.

Much has changed in the past few years in terms of discussing technological innovation with regulators. For instance, the Bank of England modernized its policy framework in early 2019, which included giving regulated entities assurances about using cloud technology, which in turn gave institutions more confidence in using the cloud. We expect this trend will only accelerate in the future.

In my experience, real technical obstacles are rare, but when it comes to the cloud, there are various considerations. We decided on a hybrid approach, keeping a number of applications on-premise in a traditional data center, because we hadn't yet found public-cloud offerings that could meet our requirements.

For example, while a part of our trading environment is developed and tested in the cloud, the current cloud offering can't yet handle specific requirements regarding high-performance demand for low latency delivered via InfiniBand controllers. For this reason, the production environment for those applications remains on-premise or in co-locations, for now.

Harald Kube: Many financial-services firms struggle with the economics of moving to the cloud, from writing off hardware to concerns about reengineering legacy applications. How did you manage to convince the organization that it was time to move to the cloud?

Christoph Böhm: I've heard too many overly simplistic business cases that account only for cost reduction driven by IT infrastructure changes. These expectations are often not met, since the pure hardware cost benefits are typically not big enough.

But if done correctly, the benefits of cloud technology go well beyond IT infrastructure costs and include a higher level of automation and faster time to market in combination with environments that can help the business scale flexibly. Additionally, increased resiliency and stability help us to focus on core development competencies.

That said, these benefits can be realized only if there is a clear understanding of the full range of benefits and a migration plan that addresses each of them. The value becomes much more obvious to everyone when the cloud migration reaches a critical mass.

For example, by using platform services and automated solutions providing out-of-the-box development environments at sufficient scale, we can prove that time can be greatly reduced to prototype new business ideas. Using our cloud-based DevSecOps capability, we will be able to deliver innovation faster as well.

The quality of our software will also improve because we're able to do more intense testing, thanks to potentially unlimited cloud test environments. This is a huge advantage over previous test setups and saves significant capacity while providing more or less instant availability.

Additionally, we'll enjoy the ability to scale better and substantially reduce IT costs by improving our

ability to react to market supply-and-demand dynamics to adjust our capacity. We'll also be able to integrate new businesses faster by using the cloud as a common denominator between us and the acquired company, which reduces or avoids complex migration activities.

Finally, the interconnectivity achieved by the cloud and our data centers allows us to connect with others quickly, since our applications and data are stored around the globe at central hubs also used by many other carriers and operators.

Harald Kube: Deutsche Börse is currently active in the M&A space, which is one of the other strategic priorities of the group. How do you support these activities in your role as COO?

Christoph Böhm: In our business, the technology of our M&A targets is essential. My area takes responsibility for the technical due diligence and potential IT integration. Cloud will help us accelerate the integration, and many of the targets we are looking at already operate on a cloud stack and can thus be integrated much more easily.

Harald Kube: What's next?

Christoph Böhm: Cloud is not a simple technology box to tick—it also opens up new ways to think about and deliver IT in a highly standardized, resilient, and automated way. Since cloud standardization reduces complexity, for example, it frees you up to focus on business topics.

We refresh and modernize our application landscape and bring innovation to our customers one business area at a time—for example, in the areas of distributed ledger technology or big data analytics. Cloud is both the foundation and an enabler that allows us to move faster and at scale, supporting our journey to digital excellence. In a few years, cloud computing will be the new normal.

Christoph Fuchs is an associate partner in McKinsey's Munich office, and **Harald Kube** is a partner in the Frankfurt office.

Copyright © 2020 McKinsey & Company. All rights reserved.