HOW DROPBOX REDUCED OPEX BY MOVING TO A MULTI-CLOUD



If the cloud is key to ensuring company success, why did a major tech company, on the verge of an IPO, make the decision to largely leave the cloud services of AWS?

In February 2018, Dropbox announced its intention to go public in the coming months. With the decision, the tech company who specializes in personal and business cloud storage disclosed financial reports from the last few years of operations. By that point, the tech world already knew how Dropbox left Amazon's cloud service (for the most part), but these financial reports underscored how much money the move saved them.

The tech world took note. In the first two years after the company relocated the majority of its data to its own custom infrastructure, Dropbox reduced their operating expenses (OpEx) by $75 million. That savings alone is massive, but it underscored its intention to go public: that $75 million in savings already accounted for 15 percent of the $500 million the company intended to raise for its public offering.

A fascinating story on its own, the cavalier moves of Dropbox have left many wondering whether a similar play would help other tech companies save big in the short-term and improve performance in the long-term. The short answer is: unlikely.

Dropbox's plan of action

While the news of Dropbox leaving AWS shocked outsiders in 2016, Dropbox had been planning the move for years.

The origins of Dropbox date to 2007 when the company's CEOs Drew Houston and Arash Ferdowsi completed Y Combinator, the vaulted Silicon Valley seed accelerator. As a start-up, Dropbox couldn't afford to build its own infrastructure and cloud system, even though storing documents in the cloud was their product. AWS was the perfect solution, providing reliability from the start, and offering flexibility and scalability as needed.

But as the company grew and began eyeing a public offering, they needed to free up money. The internal project known as Infrastructure Optimization launched, which focused on exploring, developing, and eventually moving nearly *90 percent* of its data stored on AWS servers to its own infrastructure. The result was three Dropbox colocation data centers, in California, Virginia, and Texas.

Removing inactive users from the system was a smaller piece of Infrastructure Optimization which further helped reduce costs.

Dropbox still uses AWS

While Dropbox moved a significant majority of its data and storage in-house, the company still maintains a relationship with Amazon. AWS offers wider distribution, so Dropbox can provide seamless file moving even in places where Dropbox' facilities can't reach, such as Europe and Asia. In this way, Dropbox is now operating in a multi-cloud environment rather than relying only on AWS.

The actual savings

The $75 million is the big number, but for the CFOs out there, here are the next level of numbers that back it up:

- In the first year after Dropbox re-located most of its data, their direct billing to AWS decreased by $92.5 million.
- Adding up all the fees associated with that move, such as the significant output for engineering and building custom colocation facilities seeking and hiring additional employees, Dropbox's overall cost of revenue decreased 4 percent from 2015, a savings of $16.8 million.
- In the second year, the company saw another $21.7 million decrease in cost of revenue. This accounted for a 6 percent YOY decrease, comprised significantly by a $35.1 million decrease in infrastructure costs.

The real question: will this work for everyone?

In leaving behind AWS, Dropbox saved big. But it is unlikely that leaving the cloud will work for everyone.

AWS allows companies the flexibility, access, and dependability they need to start and build a business. If Dropbox didn't have the reliability of AWS in its first few years of operations, would the company have been as successful, reaching its first public offering 11 years later? Dropbox's move made such a splash because it was the first story of a major company leaving AWS behind, just as

every cloud provider continues to tell the story that the cloud is the only way.

To put it mildly, leaving behind AWS was no silver bullet. Dropbox took a huge risk, even if the payoffs seem huge. To provide some perspective, Dropbox was still $112 million in the red at the end of 2017, despite the recouped cash. This is significant because it shows that the cost of not only generating a hyperscale platform, but *sustaining* one, is massive – perhaps one best left to the experts.

Some maintain that replicating the savings of Dropbox is the exception, not the rule. To start, Dropbox's entire business is based on the secure storage and fast retrieval of stored content – a seamless experience that can be improved by bringing in-house on a custom infrastructure. You wouldn't be wrong to say that Dropbox's product is the same as AWS, so why pay another company to do it for you?

But, the Dropbox example only highlights the other companies who *haven't* made this move yet. More companies continue to move more options to hyper-scale cloud provides like Microsoft, Google and, of course, Amazon. For instance, one of 2017's biggest IPOs was Snap, a company that has continued to rely on AWS and Google cloud services, and they have yet to turn a profit in their seven-year history.

For many other companies, however, leaving the public cloud altogether may provide much less benefit to the customer. Instead, companies may benefit from cherry-picking services to bring in-house, as developing them can take significant time and money that may not be worth the risk. For instance, Netflix relies heavily on AWS, but it has developed its own infrastructure that is used specifically to zip the content faster when a customer selects a title, improving that specific, but crucial, part of the product.

These large companies rely on these established solutions, paying much bigger bills than Dropbox – surely, there must be a good reason for it. Maybe the answer is this: the cloud isn't the answer for everyone, but it probably is for most companies.