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Module 6.2

A great case study regarding the helpful early use of service-oriented architecture (SOA) comes from Amazon early on, taking place from 2001–2005 during an early stage of their company. This was a huge transition, and it took years to implement, likely since they were one of the first companies to do something at this level.

It all started when Amazon began as a monolithic company, which makes sense because it was a small business back then. This was in 1996, a sidenote that shocked me because I didn't realize Amazon had been around that long. This type of system worked completely fine then, as it ran on a web server and got all its information from one backend area. The application was called Obidos, and this is where all the logic for the application happened.

However, as Amazon grew, its original system needed to be simplified. Amazon's CTO, Werner Vogels, explained that the system became so tangled and messy that it couldn't evolve anymore. Amazon realized they needed a significant change. They took time to rethink everything and switched to service-oriented architecture (SOA). This new setup split their system into smaller parts, called services, so each could focus on a specific job. This is often compared to microservices. This change gave Amazon's system more independence, so different parts no longer have to rely on the same area.

Instead of having one extensive system that did everything, Amazon made smaller components that could work independently. This made it easier for their system to grow and handle more work without breaking.

One idea that helped me understand this was that they didn't "put all their eggs in one basket." By separating their services, each one could get the attention it needed. It took a lot of time to figure this out because they were one of the first companies to try it, but it worked. If they hadn't taken this risk, Amazon might not have become the company it is today.

From this case study, there are three main lessons:

- By splitting its system into separate services, Amazon gave each one more independence, improving its system.
- Amazon stopped allowing services to connect directly to their database. This kept the database from getting overwhelmed and helped the system grow more smoothly.
- Splitting the system into more minor services let teams focus on their areas, which helped them work faster and develop better ideas for customers.

When each team was in charge of their service, building, fixing, and improving, everything was more accessible.

This approach made a big difference for Amazon, helping them grow and succeed in ways that wouldn't have been possible with their old system.

- Kim, G., Humble, J., Debois, P., Willis, J., & Forsgren, N. (2021). *The DevOps Handbook, Second Edition*. IT Revolution.