Zane Garrison

Nick Murphy

SWE 4633

15 November 2020

A look at: *Post Mortem: When Amazon's Cloud Turned On Itself*

Charles Babcock writes about an incident that took place in an early April morning in 2011. On this day, there was a small but seemingly critical error. Evidently, back a whole 9 years ago, Amazon Web Services was a little less automated than they are today. On this day, there was a need for some extra network capacity. Back in 2011, this process apparently required human input still and while that seems to have worked decently in the past, on this day there was a human error.

Instead of helping to fix the load balancing issue AWS was having, this human error caused terrible slow downs. As Babcock put it “The misconfiguration choked the backup network, which caused "a large number of EBS nodes in a single EBS cluster lost connection to their replicas." (Babcock). He then explains that EBS nodes are used as quick, short term storage to help ease high traffic times. With a whole cluster failing, there was no relief in site and AWS slowed to a halt.

Luckily, this happened on Easter morning and the demand was lower than normal and it was able to be fixed relatively quickly. The primary point of the article was that for cloud computing to become more widespread, it must have better fail safes and more automation. That’s basically what I’d suggest to fix this issue too. Had there been multiple checks for this dev, whatever error they submitted would have been prevented and there wouldn’t have been an

issue in the first place. Humans make many mistakes but with better checks, they can be mitigated.

A look at: *Microsoft: Pandemic Traffic Caused Azure Outage*

David Ramel writes about an issue that many companies experienced earlier this year. On March 24th of this year, “the Azure cloud experienced a hiccup.” (Ramel). This hiccup couldn’t have been foreseen exactly given the circumstances. This was at the front end of the lockdown where many users were getting sent home and Azure services as well as many other Microsoft platforms were being used infinitely more than ever before. Ramnel uses a quote from Microsoft to explain the usage spike: “We have seen a 775 percent increase in Teams' calling and meeting monthly users in a one month period in Italy, where social distancing or shelter in place orders have been enforced. We have seen a very significant spike in Teams usage, and now have more than 44 million daily users. Those users generated over 900 million meeting and calling minutes on Teams daily in a single week." (Ramel).

This insane usage spike caused a huge slow down for users in Europe from the 24th of March to the 26th of March. Unfortunately, it seems as though Microsoft wasn’t exactly quick to explain these issues. Several days after the 26th, they released this quote: “From March 24th - 26th, 2020 many customers in Europe and the United Kingdom experienced delays in their builds and releases targeting our hosted Windows and Linux agents. This incident was caused by VM capacity constraints arising from the global health pandemic that led to increased machine reimage times and then increased wait times for available agents. Many customers experienced significant delays in their pipelines over multiple days. We sincerely apologize for the impact of this incident.” (Ramel).

In an effort to fix this, Microsoft decided to focus on important issues at hand, such as prioritizing first responders, medical supply management and health screening websites. They also released a plan on how they would fix the issue in the future by “improving our monitoring

and alerting by keeping a closer watch on compute allocation failure rates." (Ramel). Rather than just prioritizing some aspects, they also limited free resources and new subscriptions in an effort to stabilize the load. This seems like a decent response and turn around time for such an unprecedented event.

Group Project Questions

The best thing we can do short term for our project is have some sort of authentication system for our api. A lot of apis solve many issues this way. Having authentication helps protect the api from many different sorts of attacks and helps keep the usage down.

A long term project with more features would probably benefit from an authentication method being paid. It seems like most book search apis we found while researching this one tend to do things like that because it further limits the uses while bringing in profit for potentially more focused development.

Works Cited

Babcock, Charles. “Post Mortem: When Amazon's Cloud Turned On Itself.” *Information Week*, Information Week, 29 4 2011, https://www.informationweek.com/cloud/infrastructure-as-a-service/post-mortem-when-amazons-cloud-turned-on-itself/d/d-id/1097465. Accessed 15 11 2020.

Ramel, David. “Microsoft: Pandemic Traffic Caused Azure Outage.” *Virtualization & Cloud Review*, Virtualization & Cloud Review, 13 4 2020, https://virtualizationreview.com/articles/2020/04/13/azure-post-mortem.aspx?m=1. Accessed 15 11 2020.