
C850 Emerging Technologies **TechFite Case Study**



STUDENT

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Part A

TechFite is a medical device manufacturer based out of Houston, Texas.

TechFite's business in the public sector has grown significantly internationally in recent years and it must follow security compliances such as FISMA and NIST. Due to TechFite's growth in the government aerospace industry such as NASA, security requirements have become an area of concern. Logs are present but scanned in a manual manner. This is highly inefficient and prone to human errors.

Part B

I propose that Techfite purchases AWS because it makes use of Artificial Intelligence (AI), which is an emerging feature. AI offers three emerging features known as anomaly detection, predictive analytics and data ingestion. Anomaly detection uses AI to detect anomalies within TechFite's log data, alerting to any suspicious activity. Predictive analytics takes the log data and analyzes it for what may happen in the future, giving TechFite better insight and forecasting capabilities. Lastly, AWS has AI features for data ingestion whereby AWS AI automatically archives lesser-used and referenced log data into cheaper storage classes thereby reducing cost of housing the increasing amounts of log data (Heddings, 2020).

Part C

I have chosen the Gartner STREET method as the adoption process.


The first step, scope is to define what the adoption of the emerging technology (or any project) entails for the organization from a business perspective. This includes what the organization seeks to achieve -- possibly to support key corporate objectives. Scope identifies the business problem and opportunity at hand. For TechFite, the scope is addressing the manual security logging process.

Track, the second step, is about going out and finding the technologies which aim to serve the scope defined in the first step. For TechFite, this is pursuing cloud based automation technologies, namely Amazon Web Services.

Rank, the third stage, is taking the results of the second step and conducting an analysis to rank the technologies and the various vendors behind them. For TechFite, this is looking at Microsoft Azure, Google Cloud Platform and other specialty logging vendors such as DataDog.

Evaluate, this step takes the rankings and creates Proofs of Concepts (PoCs) for the top contenders. This is to best ascertain and understand what implementation might look like as well as assess potential risk. For TechFite, this is running PoCs of AWS and Azure, comparing costs, efficiencies and business integration points.

Evangelize, an incredibly important step of any emerging technology adoption cycle. This step is about evangelizing the adoption within the organization, to gain buy-



in across teams and champions within those teams. For TechFite, that means spreading awareness of the benefits of cloud-based log scanning to our employees by educating them. And then further to our customers. This empowers the adoption.

Lastly, transfer. Transfer concerns itself with handing off the operations and deployment of the technology to an internal team. This team will continue full-scale deployment as well as maintain the technology and it's operations. For TechFite, this is handing over the AWS log scanning to another team who will continue to operate and maintain it.

Part D

As with any emerging technology, there are positives and negatives. A positive of this particular technology is automated log scanning and security incident detection which means less employee hours spent manually doing the work.

On the other hand, a negative aspect is this new technology requires trained engineers to calibrate and operate the cloud technology software. One way of addressing this negative is by hiring new employees and contractors with the required skill set. Another way to address this negative is to have engineers study and test for Amazon Web Services certifications thereby 'upskilling' their abilities to operate.

Part E

As with any emerging technology, there are trade offs. Here we compare using AWS with using CrowdStrike, an automated security log scanning vendor.

Advantages of Amazon Web Services:

- AWS comes with NIST, FedRAMP and a number of other compliance and security standards (Amazon Web Services, n.d.).
- AWS has Active Directory-backed SSO meaning TechFite can continue using its corporate directory without setting up new user accounts for employees.

Disadvantages of Amazon Web Services:

- Because TechFite's data will be traversing Amazon's network, we need to ensure all customer and PII data is encrypted and secure.
 - Higher compliance costs than CrowdStrike.
- There is no customizability, the log scanning solution is a one-size-fits-all.

Advantages of CrowdStrike:

- Security is CrowdStrike's bread and butter, these are the industry leaders with deep technical expertise.

- Vendor has world-class support available in case of general support inquiries or emergency security incidents.

Disadvantages of CrowdStrike:

- Requires in-depth and lengthy implementation process. Not “Plug n Play”.
- Requires full time security staff member to monitor and operate the software

Part F

As with any adoption, we must test the implementation to conclude whether a success or failure. The method I have chosen is quantifying the number of man hours saved from investigating log files.

Currently the organization spends ten hours a week (over 500 hours per year) reading and assessing security risks via log files. For a successful implementation, the number of hours spent must drop to at least half equaling five hours a week or 250 hours per year.

This drop is to come from the emerging technology scanning and then alerting engineers to security logs that are of concern. Rather than having our engineers waste company time reading through every log whether it is pertinent or not. All of these improvements will help TechFite to strengthen its security while maintaining FISMA and NIST.

References

1. Amazon Web Services. (n.d.). Cloud Compliance - Amazon Web Services (AWS). Amazon Web Services, Inc. <https://aws.amazon.com/compliance/?nc=sn&loc=3>
2. Heddings, A. (2020, September 8). AWS Storage Pricing Compared: Which Service Is the Cheapest? CloudSavvyIT. <https://www.cloudsavvyit.com/2323/aws-storage-pricing-compared-which-service-is-the-cheapest/>