
Part A:

TechFite is a medical device manufacturer that develops proprietary technology for companies such as NASA. TechFite has a small network security team and are in need of a SIEM solution. Security is the utmost priority for TechFite since the technology it develops is proprietary and possibly confidential. TechFite needs an emerging technology that can support the current customers securely and be easily scalable for future growth of the company. The technology needs to be an all in one solution that maximizes their benefit and minimizes the effort to manage. This technology solution needs to meet TechFites needs of complying with FISMA and using the NIST Risk Management Framework as a security framework("Compliance."). TechFite needs a cloud-based solution that solves one of their business problems.

Part B:

For this part I have chosen AWS Security as a Service because it makes use of AI and machine learning. This technology was built with security in mind, which makes it a perfect fit for TechFite, its customers, and all of their data as AWS Security complies with both FISMA and NIST. This cloud-based solution will solve their logging problem. With AWS centralized logging you can collect, analyze, and display logs across multiple accounts and AWS regions. AWS uses the ELK stack for centralized logging. According to rapic7 "In short, ELK gives you the basics of Log Management, i.e. a single place for all your data where you can easily search it and create some nice graphs on this" ("The Pros and Cons of Open Source Logging.", Rapid7). This centralized logging solution will allow TechFite to easily scan the logs of both host based and

network-based devices. With AWS you can set up logs to be stored for a year or more. This Solution will provide 99.99% uptime and with Amazon hosting it ("Compute", amazon), this will provide the system administrators with more time to work on other things and not worry about the management of logging solution.

Part C:

I recommend TechFite implement the STREET method when it adopts this emerging technology. STREET stands for Scope Track Rank Evaluate Evangelize Transfer. The STREET process allows for TechFite to use best practices in planning, adoption, and integration of an emerging technology. The first step is scope, which defines TechFites focus and organizational purposes as well as including the acceptable level of risk. This will include the needs and objectives of TechFites system administrator group. The second step is to track. This step will involve looking at relevant cloud technologies that might solve TechFites problem. In this step TechFite will assign their champions for each technology to track. The third step is Rank. In this step TechFite will need to rank their alternate cloud solutions that are the most feasible and are likely to bring the most benefit to the organization that don't cross TechFites acceptable risk. The fourth step is to evaluate. TechFite will need to evaluate the top ranked technology from the previous section, although a final decision is not made at this stage. TechFite will prototype and pilot the top ranked technology to understand the full value it can bring or eliminate technology that brings unnecessary risks. The fifth step is evangelizing. In this step TechFite will need to inspire, educate and involve key people to inform them of the benefits of the technology to TechFite. TechFite will need to use this stage to reduce the organizational resistance by evangelizing and encouraging. The final step is transfer. This step will transfer the responsibility for the

technology to the person or project responsible for full-scale deployment. At this stage TechFite would gain responsibility of the full-scale deployment of the AWS centralized logging. All the steps of the STREET process are necessary and depend on each other to complete the adoption process using best practices and have a successful adoption of the emerging technology.

Part D:

The AWS centralized logging solution can provide many benefits to TechFite, one of the positive aspects of using an AWS centralized logging solution is that its elastic stack technology will allow TechFite to customize the logs into dashboards and set up events to notify them if an anomaly occurs. This technology will be hosted by Amazon and thus relieve the workload of the system administrators. One of the negative aspects of AWS Elastic Stack technology is that it can sometimes be a big learning curve when you want to customize the technology to your environment. A solution to this would be to use Amazon's forums and best practices when setting up to reduce the learning curve and to use other people's experience with the technology to your advantage. Another solution would be to use a preconfigured setup that would fit data ingestion limits of TechFite, avoiding the configuration headache.

Part E:

The Amazon AWS centralized logging solution is not the only viable cloud solution for TechFite. Another emerging technology is Microsoft Azure. According to a reference from computer world "Wang also positions Microsoft as "a strong number two to AWS", thanks to its combination of Azure, Office 365 and Teams." ("AWS vs Azure vs Google Cloud", Carey). Although some people view Microsoft Azure as second to AWS, Azure has a lot to offer. One advantage over AWS is in

the market of hybrid clouds. TechFite would be able to use already on-site servers with the azure stack. Another advantage over AWS is how seamless Azure works with windows environments. One of the disadvantages of Azure is that it does not work as well with open source technology as AWS. Another disadvantage when it comes to Azure is the fact that your location can affect the speed you receive and how seamless your connection is.

One advantage that AWS has is its unlimited server capacity. Nick at Sados puts it this way “There’s basically no IT-based need that your business has, that AWS cannot handle” (SADOS). This is promising to TechFite since this will not only handle current amounts of data but be easily scalable for the future. Another advantage that AWS has is that security was designed into AWS. Their solutions provide the best encryption and security. AWS solutions also have some disadvantages to consider. One of the biggest disadvantages of AWS is the big learning curve that is required to set up and manage their solutions. It’s not as easy to customize the solution to your environment. Another advantage that AWS offers is a No-Commitment policy. Whatever the solution is you are not required to keep it for any amount of time, not even a whole month.

Part F:

The method I have chosen is the number of man hours saved. Using a cloud solution can save man hours in a few ways. The first way is because the solution is hosted in the cloud and not on site. This will reduce the amount of people TechFite will need to hire to manage the solution as well as save on not having to spend any money on hardware.

Resources

“Compliance.” *Amazon*, The Commission, 2001, aws.amazon.com/compliance/fisma/.

Rapid7. “The Pros and Cons of Open Source Logging.” *Rapid7 Blog*, Rapid7 Blog, 3 Nov. 2017, blog.rapid7.com/2014/09/05/the-pros-and-cons-of-open-source-logging/.

Carey, Scott. “AWS vs Azure vs Google Cloud: What's the Best Cloud Platform for Enterprise?” *Computerworld*, Computerworld, 23 Jan. 2020, www.computerworld.com/article/3429365/aws-vs-azure-vs-google-whats-the-best-cloud-platform-for-enterprise.html.

“The 5 Benefits of AWS Cloud Servers (And the 3 Drawbacks).” *SADOS*, 21 Sept. 2019, sados.com/blog/aws-benefits-and-drawbacks/.

“Compute.” *Amazon*, Small System Services., aws.amazon.com/compute/sla/.