Initial Post

Cyber security design has three approaches network security, software security and human factors. The foundation architecture, structure and functionality design should consider based on these three approaches to mitigate the cyber security issues.

The traditional architecture design is network segmentation, partitioning services in different trusted networks with the firewall (Cisco, 2021). To enhance the network segmentation, John Kindervag developed the Zero Trust Network architecture in 2010 (John, 2010). The concept is to pretend all interfaces and users are untrusted, and all traffic is encrypted. Despite implementation from trust to untrust network can be painful for the existing organization and require taking the phased approach, it is much convenient and maturational to set up this architecture nowadays. Encryption is a build-in function or enabled by default on the software designed, Multi-factor Authentication has become a common practice and option in web service.

The trend of service from monolithic to microservices design runs parallel with Architecting Zero Trust Network. Microservice Architecture is brought by Chris Richardson in 2018 (Chris, 2021) that structures the application as a collection of small and autonomous services. Services are being isolated, it can be no disruption to the entire application when failure if upstream can handle them. Microservices development could create different types of complexity with multi small feature teams, nevertheless, the feature teams with a small codebase can mitigate the code disclosure by human factor. Furthermore, each feature team is focused on each microservice agility, service can be rollback and fix quickly to secure the software if the vulnerability is found.

In conclusion, these two security technologies, Zero Trust Network and Microservices are the trends for service delivery in the organization. Implementation and changing people mindsets could be toilful, even so, compared to the cost of the data breaches, organizations are worth putting in this effort.

References:

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