**Module Five Coding Assignment Certificate Generation**

1. Why would you want to use a CA for security?

Using a Certificate Authority can enhance security in multiple ways, specifically through acting as a third-party that can verify the identity of individuals or businesses requesting a certificate. CA’s use a public key to ensure that the information withheld in the certificate is accurate and reliable. CAs are also crucial to Public Key Infrastructure (PKI) which manages digital keys and certificates. PKI is used for establishing secure communication channels, authenticating users, and ensuring the integrity and confidentiality of data. Certificates that are generated by established Certificate Authorities are widely regarded by browsers and operating systems.

1. What are the advantages of using a CA?

The advantages of using a Certificate Authority allow organizations to maintain trust between clients and other entities. Certificate Authorities have the included benefit of authenticating clients between each other, especially for browsers or operating systems. This secure method of authentication helps to ensure that the parties are who they say they are. Certificate Authorities are also under strict scrutiny and withheld to regulatory standards set out by the “CA/Browser Forum”, which helps to regulate the SSL industry and issues guidelines involving the management of SSL certificates (Quigley, 2023). Another advantage of using a Certificate Authority is that when businesses partner with a CA, that CA can help in managing the certificates. While this may seem counterintuitive from a business standpoint it can help in ensuring secure communication and trusted partnership between entities for the business.

GeeksforGeeks. (2020, January 23). *Digital Certificate Creation*. https://www.geeksforgeeks.org/digital-certificate-creation/?ref=header\_search

Quigley, C. (2023, September 27). *What is a Certificate Authority? Why do they matter? | SSLs.com Blog*. SSLs.com Blog. <https://www.ssls.com/blog/what-is-a-certificate-authority-why-do-they-matter/>

*What is CA certificate, and why do we need it?* (n.d.). Stack Overflow. https://stackoverflow.com/questions/40061263/what-is-ca-certificate-and-why-do-we-need-it

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