Southern New Hampshire University

5-2 Coding Assignment: Certificate Generation

David Vega

Dr. Vivian Lyon

CS-305 – Software Security

02/05/2023

In much the same way that a hashing algorithm (i.e. – SHA-256) ensures the integrity of the data being sent to a user, you could equally say the same thing for certificate authorities or CAs. CAs are meant to provide assurance that the website you are connecting to is a trusted source. A CA is a digital signature of authenticity and helps to validate a domain’s identity (Awati & Loshin, 2021).

When it comes to self-signed and CA-signed certificates, there are some advantages and disadvantages to consider. The advantage of a self-signed certificate is that they are easy to create and come at no cost. The disadvantage of self-signed certificates is that they cannot be verified. A CA-signed certificate on the other hand, is verified by a third party. CAs also provide information about certificates including a repository of revoked certificates. The disadvantage of CA-signed certificates is that they are an added expense that can vary from different CAs (IBM, 2022). The type of certificate you will need will depend on the type of website you have, how much security you are looking for, and what kind of budget you’re working with (Johnson, 2019).

Figure 1: Series of Questions

A computer screen capture

Description automatically generated with medium confidence

Figure 2: Printed Certificate

Text

Description automatically generated

References

Awati, R., & Loshin, P. (2021, September 23). *Identity and access management*. Retrieved from techtarget.com: https://www.techtarget.com/searchsecurity/definition/certificate-authority#:~:text=A%20certificate%20authority%20(CA)%20is,trust%20in%20content%20delivered%20online.

IBM. (2022, May 11). *IBM Sterling B2B Integrator 5.2*. Retrieved from ibm.com: https://www.ibm.com/docs/en/b2b-integrator/5.2?topic=certficates-benefits-self-signed-ca-signed-digital-certificates

Johnson, D. (2019, December 30). *How Much Does a SSL Certificate Cost?* Retrieved from bluehost.com: https://www.bluehost.com/blog/how-much-does-an-ssl-certificate-cost/?irpid=101&clickid=P61C101S570N0B5578A2D4499E0000V113&gclid=CjwKCAiAxP2eBhBiEiwA5puhNZuk6jlNwdXGbzyprsMwOiFnJHQc63Cu0mVWjQnH2KXIhSsQlrhCgxoC3rQQAvD\_BwE&gclsrc=aw.ds