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The CIA Triad

BLUF: This article discusses the CIA triad model that is used within information security. It stands for confidentiality, integrity, and availability, which are three fundamental cybersecurity components. It serves as a basic security framework for organizations.

The CIA Triad

The CIA triad is a core concept within the cybersecurity world. It is a guideline used within organizations to establish a framework that's designed to protect systems and data. It consists of three principles: Confidentiality, integrity, and availability.

Confidentiality is protecting sensitive data from unauthorized access, making sure that the data stays private and only accessible to those who have authorization. Integrity ensures that data remains unaltered by unauthorized users. It maintains the accuracy of the data during transmission or storage, which keeps its trustworthiness over time. Availability ensures that information and systems remain accessible whenever needed. The best way to maintain availability is through regular maintenance of hardware and operating systems, such as keeping up with system updates.

The CIA triad is composed of concepts that hold great significance in cybersecurity, which is why it is heavily emphasized and applied quite often in the field. It also serves as a foundation for constructing effective security policies for organizations.

Authentication and Authorization

Authentication and authorization are two methods that are commonly used to build a stronger, secure environment and maintain confidentiality. Authentication is the process of verifying a user's identity, which can be done through methods such as usernames and passwords, biometrics (e.g., fingerprints or facial recognition), or multi-factor authorization (MFA). Authorization, on the other hand, is granting access to the user after authentication, whether it will be for accessing specific data or making modifications to the data (Cilwerner). For example, a user can be authenticated by entering a username and password, and once the user is authenticated, they are authorized to access specific records based on their role or what permissions they have, such as user records or financial data.

Conclusion

The CIA triad is a fundamental framework widely used in cybersecurity. Although it is relatively simple, it is an effective process and provides a solid foundation for developing security policies within organizations. Two common methods used by organizations that enhance security are authentication and authorization, and these two methods help ensure that data is limited to only those who are authorized to view it.

References

Cilwerner. (n.d.). *Authentication vs. Authorization - Microsoft Identity Platform*. Microsoft identity

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