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The Trio of Security

Confidentiality, Integrity, and Availability are the three key principles of Cybersecurity. The CIA triad has the essential methods to keeping your data secure. Authentication and Authorization are the most important processes for identifying and verification.

The Triad Structure

The CIA-Triad is a well-known model for development of security. The CIA stands for Confidentiality, Integrity, and Availability. This model helps security teams pinpoint different ways to address security concerns that arise. Confidentiality in the model refers to protecting information from unauthorized access. A key component of maintaining confidentiality is making sure that people without proper authorization are prevented from accessing assets important to your business. Integrity prevents unauthorized alteration of information. For example, A production drink company that has secret recipes. It's vital to protect the value of the company's brand. The company would take extreme measures to protect that information from outside sources. Employees are also trained to protect the company's brand and data from unintended or intended harm. Availability in cybersecurity measures protect timely and uninterrupted access to the system. In the article, it states that Disruption of website availability for even a short time can lead to loss of revenue, customer dissatisfaction and reputation

damage. (Management, 2023) For example, The Denial of service (DoS attack) are frequently used by hackers.

All about Authentication

The Authentication method is process of verifying who someone is. This method is used to verify that users are really who they represent themselves to be. The authentication method must be confirmed before proceeding forward. For example, A group of people wanting to board an airplane and determining who is allowed to board would be determined using the authentication method. (University, 2024) Authentication is the beginning step of a good identity and access managing process. Authentication works through using passwords, one-time pins, biometric information, and other data provided or entered by the user. It is visible to and can be partially changeable by the user.

The Authorization Method

The Authorization Method is used for verifying what specific applications, files and data a user has access to. Authorization is used to grant user permission to access different levels of information and perform specific functions established for different type of users. This method always comes after the authentication method is complete first. Authorization isn't visible or changeable by the user like it is with the authentication method. (Management, 2023) For example, An HR access level is authorized, then managers and employees can access different levels of data based on permissions set.

Conclusion

As a final point, The CIA Triad is a strong and helpful model used to guide policies based on confidentiality, integrity and availability for businesses information security in an organization. The authentication and authorization methods are both essential to protecting resources and data. The authentication method must be used first and confirmed before the authorization can be completed. All these principles are used for verification and providing protection of important data and information.

References

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