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The CIA Triad

BLUF:

The CIA Triad is a model designed for information security focusing on confidentiality, integrity, and availability. With the support of authentication and authorization, the triad can ensure that verified users are the only ones that can access appropriate resources within an organization.

The CIA Triad:

The CIA Triad breaks down into three major concepts: confidentiality, integrity, and availability. Confidentiality are the efforts to keep data secure or private. Only users who are authorized should have access to sensitive information. For example, organizations use passwords and encryption to protect confidential data from unauthorized users. Integrity is making your data “trustworthy and free from tampering” (Fortinet, 2025). Information should remain accurate and should not be changed unless an authorized user makes the changes or approves of the changes. Even if data is confidential and integrity is maintained, “it [should remain] available to those in the organization and the customers” (Fortinet, 2025). Availability makes sure that information and systems can be accessed reliably.

Authentication and Authorization:

Authentication “confirms who you claim to be” (Watkins, 2021). It is a process of verifying the user’s identify before granting access. It is a way to prove who you are. Some examples would be passwords and biometric methods (fingerprints). Authorization “determines

what you are allowed to do” (Watkins, 2021). While authentication verifies the identity of an individual, authorization determines what can be viewed or what the user has access to. For example, an employee may be able to login to a company network, but they may only be able to look at their payroll.

Conclusion:

The CIA Triad is the foundation for information security, consisting of confidentiality, integrity, and availability. These three components are designed to keep data and systems safe. Authentication and authorization support the triad by making sure users are verified and only have access to permitted resources. Putting the two concepts together help organizations protect sensitive information and secure systems.

References

Fortinet. (2025). What is the CIA Triad and Why is it important? Retrieved from Fortinet website: <https://www.fortinet.com/resources/cyberglossary/cia-triad>

Watkins, J. M. (2021). Optimizing Authorization Security: A Guide to Access Control Models. Retrieved from FusionAuth website: <https://fusionauth.io/articles/identity-basics/authorization-models>