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The CIA Triad

BLUF: The CIA triad is a concept in information security that aims to protect an organization's data and systems.

The triad represents three core principles: confidentiality, integrity, and availability. These principles describe the three important goals that must be met in cybersecurity. Confidentiality is the concept of allowing certain people to have authorization to certain information. This keeps information more secure and more difficult to obtain. Integrity is the idea of making sure information is always accurate and reliable for whomever may need it. Lastly, availability is a guarantee of reliable access to the information by authorized people (Chai, 2022).

The CIA triad also directly interlinks with the concepts of authentication and authorization. Authentication is verifying that the user trying to gain information is who they say they are. Authorization allows the user access to the information if they are in fact who they say they are. For example, when a user logs in to the system by entering their username and password, the system verifies that the credentials match an existing user profile, confirming their identity. After the authentication confirmation, the system checks the user's role such as admin, manager, or regular employee. If the user is identified as an admin, they may have access to delete or modify documents. Meanwhile, a manager may only have privileges to view documents, and employees might be restricted to viewing only certain files. In this scenario, authentication confirms the user's identity while authorization determines which resources or actions the user can access based on their role (Okta, 2024).

Conclusion: The CIA triad was created to help protect data systems. Additionally, authentication is checking a user's identity and authorization allows the user access to information based on the level of privileges granted.

References

Chai, W. (2022). *What is the CIA triad? Definition, explanation, examples*. TechTarget. https://www.techtarget.com/whatis/definition/Confidentiality-integrity-and-availability-CIA

Okta. (2024). *Authentication vs. authorization*. https://www.okta.com/identity-101/authentication-vs-authorization/