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CIA TRIAD

1. Understanding the CIA Triad: Confidentiality, Integrity, and Availability

The CIA Triad is a simple but important concept when it comes to keeping information safe. It stands for Confidentiality, Integrity, and Availability, and these three ideas work together to protect data and systems.

2. Confidentiality: Ensuring Privacy and Security of Information

Confidentiality is about keeping information private so only the people who are supposed to see it can. For example, when you log into your email with a password, you're making sure only you can read your messages. It's all about making sure that no one unauthorized gets access to your stuff.

3. Integrity: Maintaining Accuracy and Trustworthiness of Data

Integrity means making sure the information stays accurate and hasn't been messed with by someone who shouldn't have touched it. Think about when you send a text or an email; you want to make sure that no one altered your message while it was being sent. For this, people might use things like digital signatures to check if something was tampered with.

4. Availability: Ensuring Continuous Access to Critical Information

Availability is about making sure you can always access information when you need it. If a website goes down, it's a problem, right? So, companies have backup systems and other measures in place to make sure everything stays up and running smoothly so users can always get to the data they need.

5. The Role of Authentication in Security

Now, Authentication and Authorization are two different things, but they work together. Authentication is the process of proving who you are, like logging into your account with a username and password. It's the system checking to make sure you are who you say you are.

6. Authorization: Defining Access and Permissions

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On the other hand, Authorization is about what you're allowed to do once you've logged in. It's like being let into a party—just because you get in doesn't mean you have access to everything. Once you're inside, authorization decides whether you can access certain files or features, depending on what you're allowed to do.

7.Conclusion:

To wrap things up, the CIA Triad Confidentiality, Integrity, and Availability—helps keep information safe and secure. By making sure data is kept private, accurate, and accessible when needed, we can protect important systems and information. On top of that, Authentication and Authorization help make sure the right people can access what they're allowed to and nothing more. When all of these work together, they create a solid foundation for keeping data secure and ensuring everything runs smoothly.

Reference

- Hashemi-Pour, C., & Chai, W. (2023, December 21). *What is the CIA triad (confidentiality, integrity and availability)?* WhatIs. https://www.techtarget.com/whatis/definition/Confidentiality-integrity-and-availability-CIA?jr=on