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CIA Triad

The CIA Triad is an important part of learning about cyber security and the balance necessary to keep a system secure but usable. It helps point out and explain key concepts and ways a system can be breached.

Confidentiality

Confidentiality is mainly making sure that the information gets to the right person this can be shown in the idea of least privilege. Least privilege makes sure that those who are authorized can access certain parts of the server and makes sure that everyone who specifically needs to see the data can. This is part of the triad that helps gate-keep information, and two-factor authentication can help keep confidentiality. Authentication differs from authorization due to authentication helping someone prove it is them and authorization being the person who has access.

Integrity

Integrity makes sure the information given is the correct information. This is done by protecting information while it is being transferred this can be done by encryption, firewall or other form of data protection. An example of encryption would be public key and private key, this works by making sure others can't one change the message and two read the message. This is so only the people it is intended to can get the correct message, as only a person's private key can unlock the public one and vice versa. The sender's private key will encrypt the message so the users can access it with their public key then will use the receiver's public key so no one can change it or read it other than the intended receiver.

Accessibility

Lastly is accessibility is where it is located and how many people can get the information. An example would be like the pay wall with New York Times, as the difference in accessibility from those who can pay and those who don't, being that those who pay have all access while those who don't only get two articles. This is mainly about ease of use as it is about what can be reached by all. This is the human interface part which is important but tends to compromise security the most as the more people who have access, the more holes in the system.

Conclusion

The triad is in reference to a triangle and the ideal triangle is an equilateral one. However there is a limited amount of space in which a system can take up so giving more towards access might compromise integrity or confidentiality of a system. In knowing the basis of these labels and knowing limitations helps understand cybersecurity and the bounds in which it lays.

References

[The CIA triad.pdf](#)

[What is the CIA Triad? Definition and Examples](#)

[Confidentiality, Integrity, and Availability. These are the three core components of the CIA triad, an information security model meant to guide an organization's security procedures and policies. Learn more on SecurityScorecard's blog.](#)

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