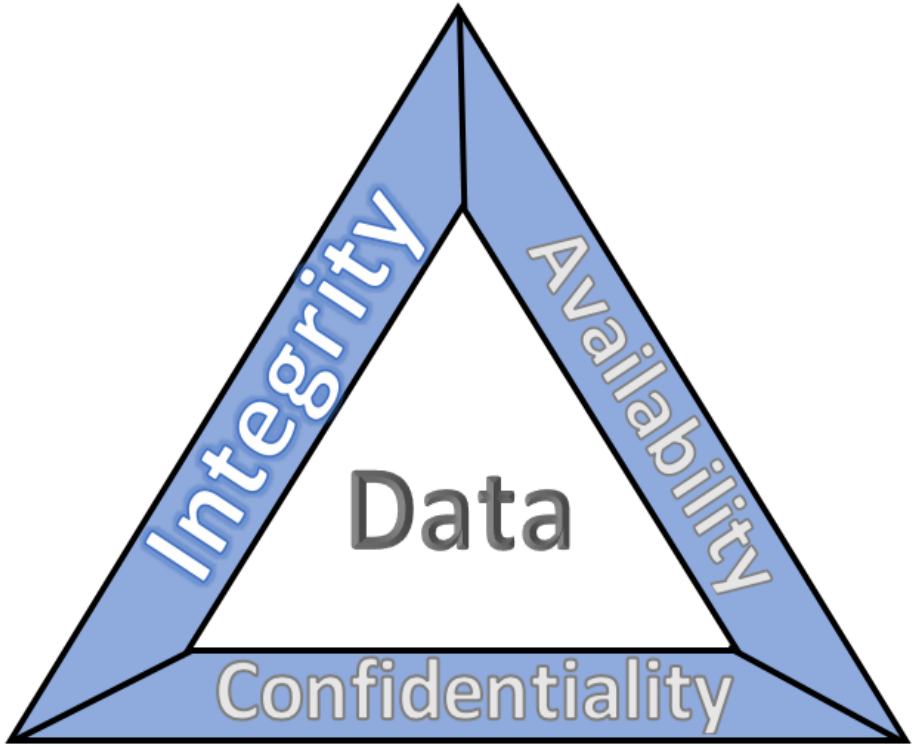
Threats, Vulnerabilities, and Risks… Oh my!



SECTIGO WEB
SECURITY PLATFORM

What is the difference between a threat, a vulnerability, and a risk?

Threat:
Something that can damage or destroy an asset

Vulnerability:
A weakness or gap in your protection

Risk:
Where assets, threats, and vulnerabilities intersect

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Agenda

- CIA – No, not the feds
- Threats
- Vulnerabilities
- Risks
  - Math – Not really so much

CIA

- **Confidentiality** – preserving authorized restrictions on information access and disclosure, including means for protecting personal privacy and proprietary information
- **Integrity** — guarding against improper information modification or destruction and ensuring information non-repudiation and authenticity
- **Availability** – ensuring timely and reliable access to and use of information

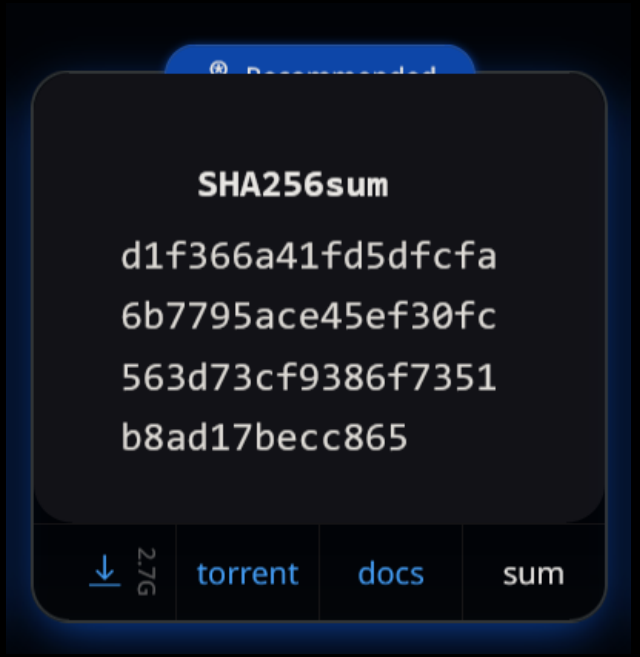
https://www.nccoe.nist.gov/publication/1800-25/VolA/index.html

Confidentiality

- Ensuring only authorized people can access data
- Encryption technology
- Credential Access
- NDAs, policies, etc.

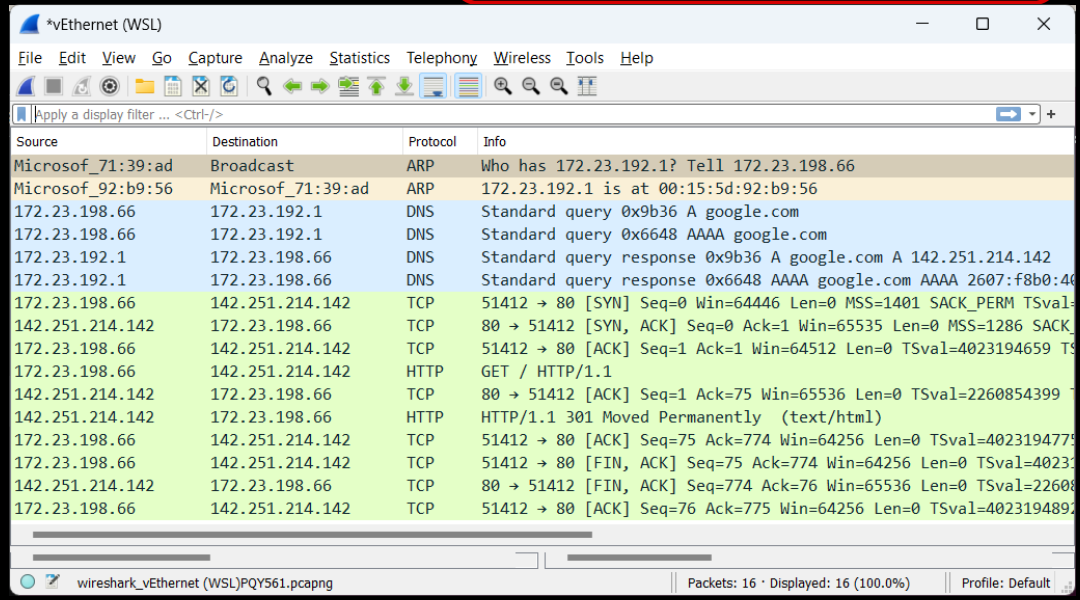
Integrity

- Guarantee the data you have is what was intended
- Hashing algorithms
- Non-repudiation - Authenticity

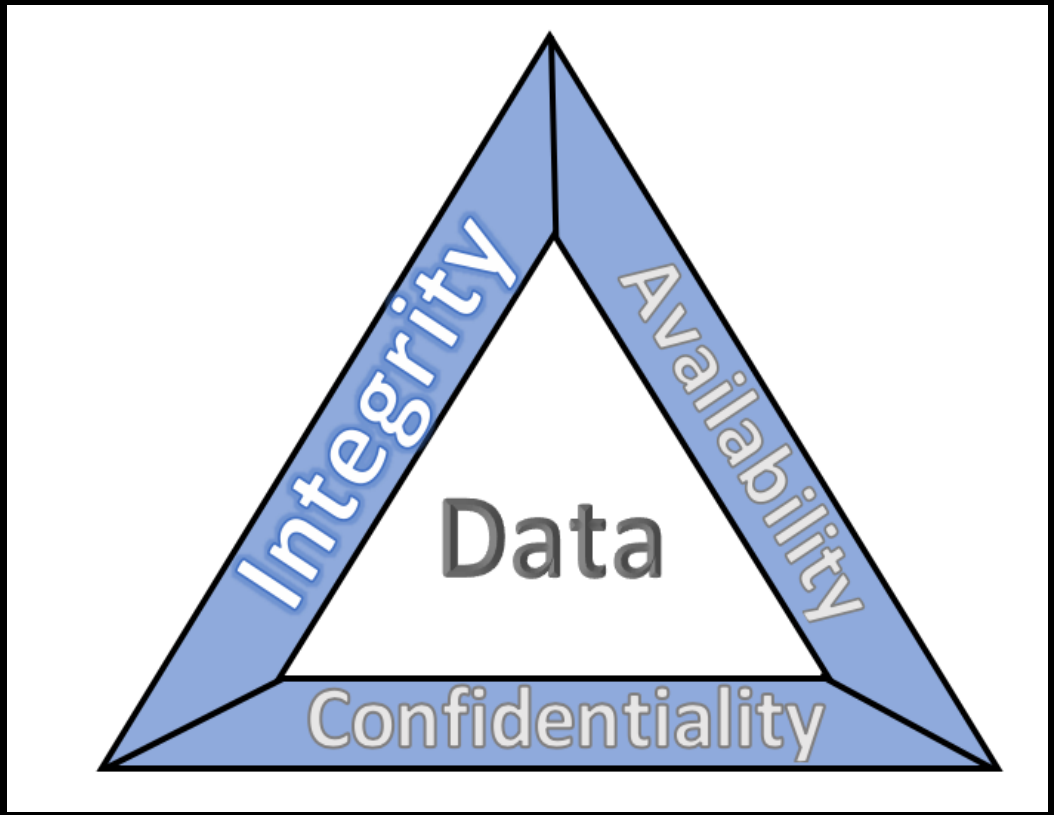


Availability

- Ensuring data is actually there for users to access
- Service up-time
- In a timely manner
- Backups and redundant systems
- TCP and other protocols



CIA is a Balancing Act

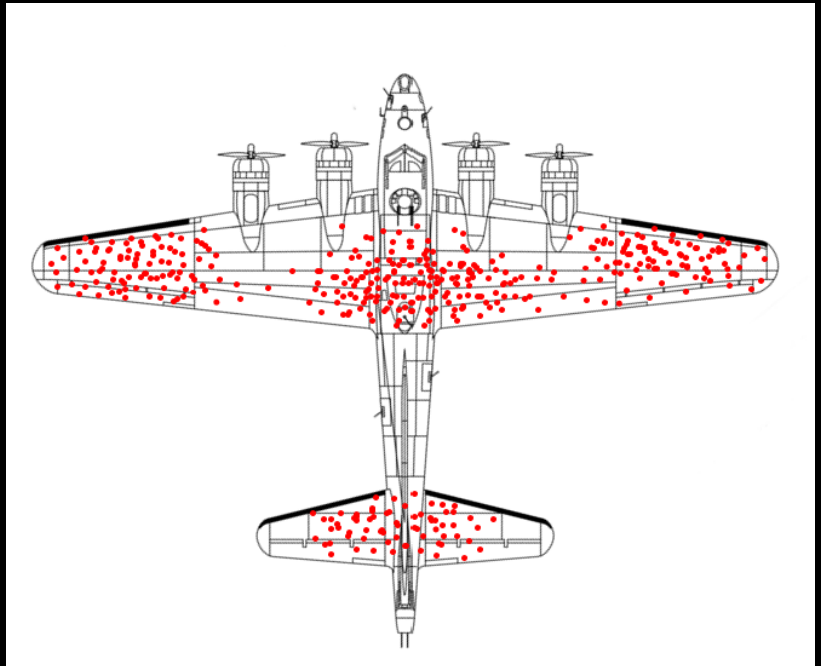


Threats

- Anything that *CAN* cause harm to a system
- Natural
- Unintentional
- Malicious
- Who or what is threatening us?
- APTs, Employees, hacktivists, script kiddies

Vulnerabilities

- Weak points in our attack surface
- Outdated systems, bad policy and procedures, poor user habits
- What are the vulnerable areas on this airplane?



Risks

- Risk = (Threats * Vulnerabilities * Probability * Impact)/Countermeasures
- How bad is it if we are compromised?
- Risk tolerance - The level of risk an entity is willing to assume in order to achieve a potential desired result.

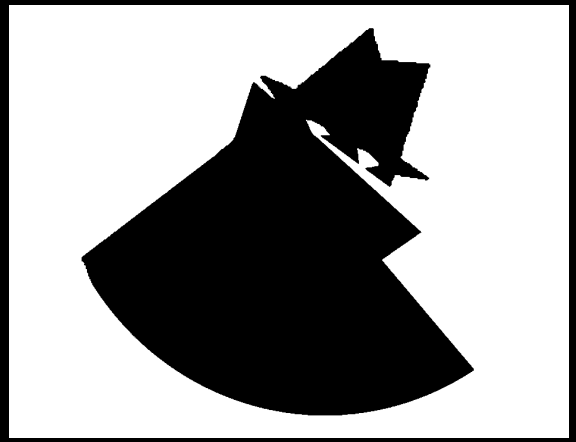
https://www.sans.org/blog/insider-threat-risk-formula-survivability-risk-and-threat/

https://csrc.nist.gov/glossary/term/risk_tolerance

All Together now

Vulnerability

Threat



Risk