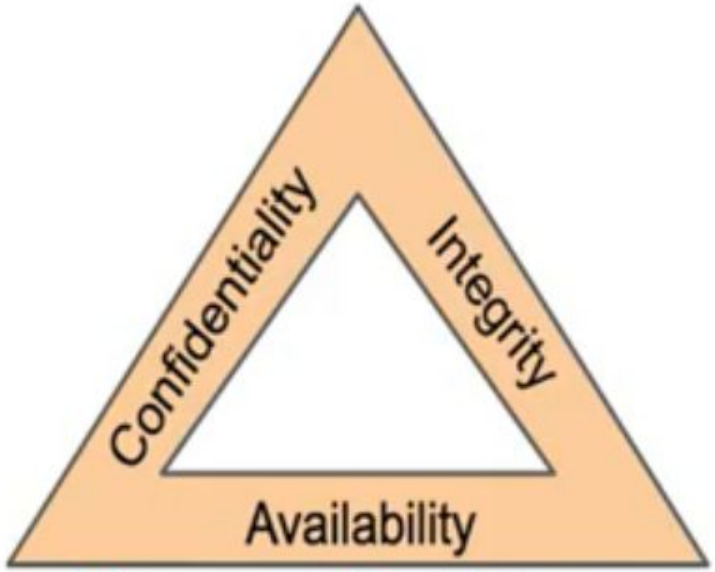
Security Architecture Models

The three main requirements of Information Security are:



- **Confidentiality**

- only authorized persons should access the data

- **Integrity**

- only authorized persons can change the data

- **Availability**

- information is available to authorized persons when they need

A security model is a specification of a security policy that describes the entities governed by the policy and states the rules that constitute the policy.

In particular, security models are used to:

- test a particular policy for completeness and consistency

- document a policy
- help conceptualize and design, implementation
- check whether an implementation meets its requirements

Bella La-Padula (BLP) Model:

- ✓ The Bell-LaPadula security model deals with the preservation of confidentiality.
- ✓ It is a multilevel security model derived from traditional military multilevel security environment.
- ✓ The military database can hold information at a number of different levels of classification e.g. **unclassified < confidential < secret < top secret.**
- ✓ All **subjects (processes, users, etc) and data objects (files, directories etc)** are labeled with security level e.g. unclassified < confidential < secret < top secret.

Four types of Information available in any organization

Top Secret

example – country's military information

Secret

example - an organization's assets and bank details

Confidential

example - an organization's business transactions

Public

example - an organization's product list

Lattice model