

Lec 9: INFORMATION SECURITY

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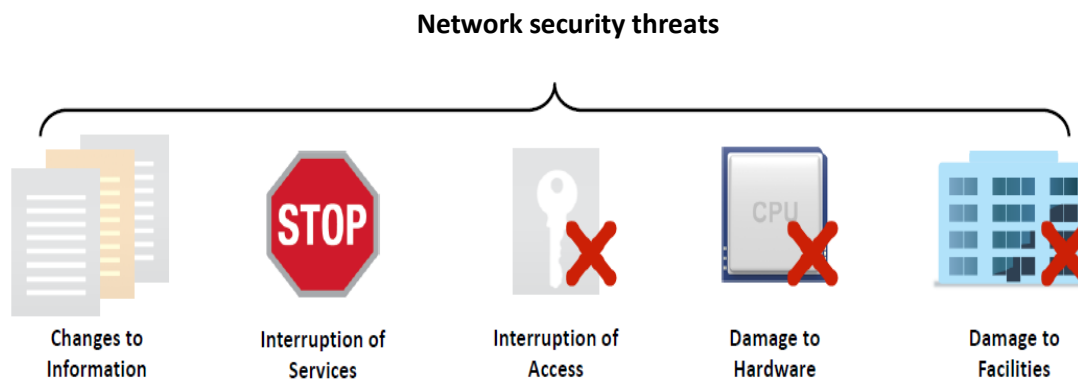
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Information Security

Information security is the protection of information and information systems from unauthorized access, use, disclosure, disruption, modification, or destruction in order to achieve confidentiality, integrity, and availability.

Computer network security risks

Computer security risk is a concept that indicates actions or events that could cause a loss of or damage to computer hardware, software, information, data, or processing capability and signifies the likelihood of a hazard or dangerous threat.

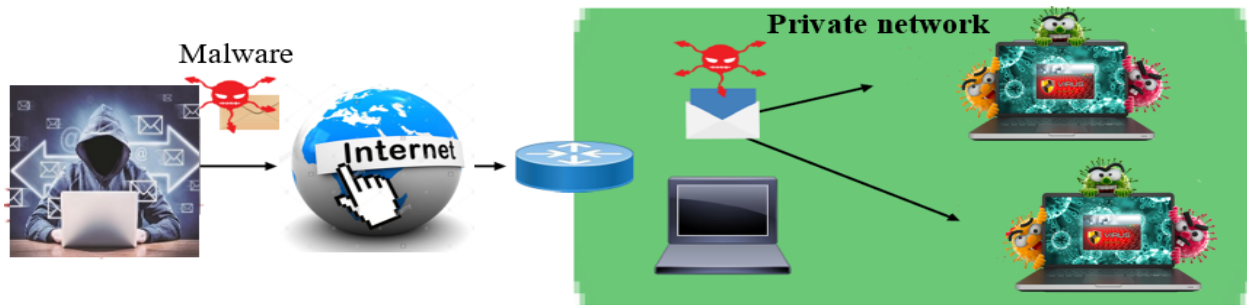


Risks to personal and organizational data

Information privacy refers to the right of individuals and companies to deny or restrict the collection and use of information about them. Security risk is associated with system, power, network, and physical losses. Thus, data in all forms must be protected and organizations must take risk into account when information security is designed and implemented.

Computer Malware

Malware is malicious software designed specifically to damage computers without the user's consent. It is a general term covering all the different types of threats to computer safety, such as viruses, worms, Trojans, or spyware.



- **Virus:**

A virus is a malicious software that is designed to take control of system operations and destroy some or all files stored on the computer or even the computer itself. Viruses can easily copy themselves and spread throughout the computer system once activated by the user. Computer Viruses can be transferred through downloaded files or programs, email attachments, CDs, and flash drives.

- **Worm:**

A worm is a self-replicating program that usually consumes system and network resources. It makes copies of itself repeatedly, and infects additional computers, for example copies itself in computer memory or on a network and using up the available resources and may shut down the computer or network.

- **Trojan horse:**

Unlike a virus or worm, a Trojan horse is a program that neither replicates nor copies itself to other computers, but causes damage or compromises the security of the computer. It can enter a computer as a virus or hide within or even look like a legitimate program.

- **Spyware:**

Spyware is a program placed on a computer without user consent or knowledge that can capture information like Web browsing habits, e-mail messages, usernames and passwords, and credit card information.