Chapter: 11.3 Firewall

Topic: 11.3.1 What is Firewall

What is Firewall

- A computer network is a collection of autonomous computing devices sharing data communications technology that enables them to exchange information.
- An internetwork is a set of individual networks, interconnected by the appropriate devices, in such a way that they can behave as a single larger network.
- These definitions are built around the ideas of providing connectivity and making information exchange possible, two goals achieved with undoubted success.
- Internetworking has definitely changed the way people live, learn, play and work.
- This is poetic and appealing but it is always important to remember that the Internet also brings to the scene dangerous features such as anonymity, the ability to remotely control computers, and automated task execution.
- There should be some means to compensate for the absence of natural boundaries in the Internet.
- Within the realm of computer networks, a firewall is a security system that lends itself to the task of isolating areas of the network and delimiting domains of trust.
- Building upon this initial state of isolation created by the firewall, access control policies that specify the traffic types entitled to go from one domain to another can be defined.
- The firewall act as a sort of conditional gateway.
- The criteria to permit traffic normally defined in the firewall policy and ideally, should relate to what is stated in the security policy of the organization.
- FIG 11.1 depicts a simple scenario in which there is a firewall controlling access from clients on the trusted domain to servers on the untrusted domain
  - ➢ The enforced conditions corresponding to the question "Does my access control policy allow...?" depends on the specific category of the firewall in place.
  - ➢ Each domain of trust can include one or more networks.

➢ A firewall is only capable of controlling traffic that passes through it.

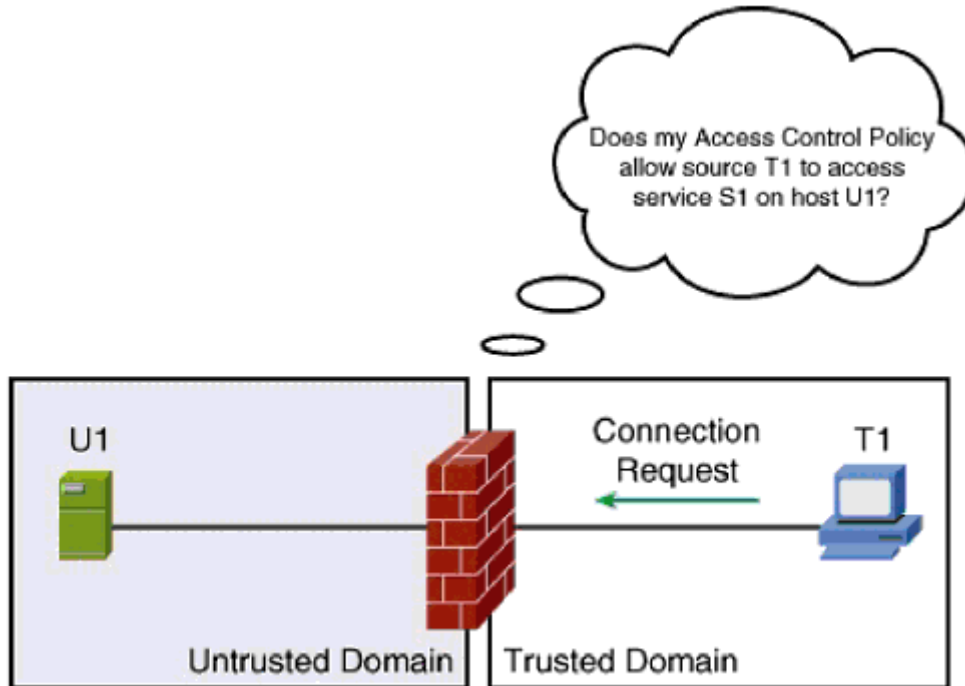➢ This implies that clear knowledge about the location of clients and servers in the network is needed before beginning policy definition.

FIG 11.1 :Firewall and Security Domains