Firewall

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Agenda

What is **Cyber Security**?

Need for **Cyber Security**

Key concepts of **Cyber Security**

Types of **Cyber Security**

What are **Cyber attacks**?

What are **Threats**?

What are **Vulnerabilities**?

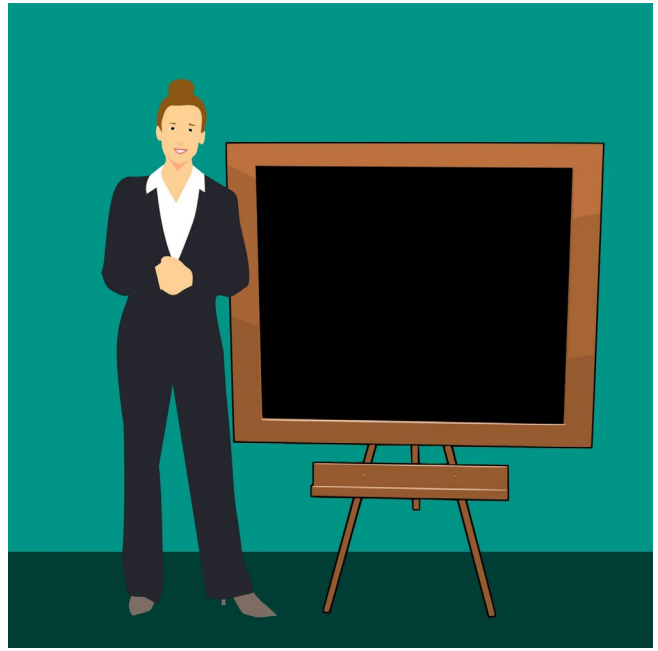
What is a **Firewall**?

Need for **Firewall**

Firewall vs **Antivirus**

How does a **Firewall** work?

Types of **Firewall**



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Need for Cyber Security

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Need for Cyber Security

- Cybersecurity is important across different sectors such as government organizations, startups, mid and large enterprises and even for personal use.
- Gone are the days of simple firewalls and antivirus software's being our sole security measures.
- Cybersecurity risk is increasing and without its help, the organization cannot defend itself against data breach campaigns.
- With the increase in the rate of cyber crime, Cyber Security has gained a huge importance in the society.

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Types of Cyber Security

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Types of Cyber Security

- Network Security
- Information Security
- Application Security
- Cloud Security
- Internet of Things Security
- Mobile Security

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What are Cyber attacks?

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What are Cyber attacks?

A **cyber attack** is an intentional activity that exploits computers, networks, and enterprises that rely heavily on technology.

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What is a Firewall?

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What is a Firewall?

A **Firewall** is a network security device that monitors all incoming and outgoing traffic and permits, blocks, or drops data packets based on a defined set of security rules

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Need for Firewall

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Need for Firewall

- Blocks unwanted traffic and malicious software
- Acts as a barrier between computer and outside network
- Secures private information
- Prevents ransomware
- Prevents hacking

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Firewall vs Antivirus

Firewall	Antivirus
A firewall is a network security device that monitors all incoming and outgoing traffic based on a defined set of security rules.	A software that is designed to protect the system from malware, trojan or viruses.
Restricts unauthorized access	Scans, detects and removes threat in the computer
Also known as packet filter since it filters the data packets for malicious content	Modifies weaknesses in computer
Popular firewall software's are Norton, Netdefender, Glasswire, AVS firewall etc.	Popular antivirus software’s are McAfee, Kaspersky, Avast, Avira etc.

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How does a Firewall work?

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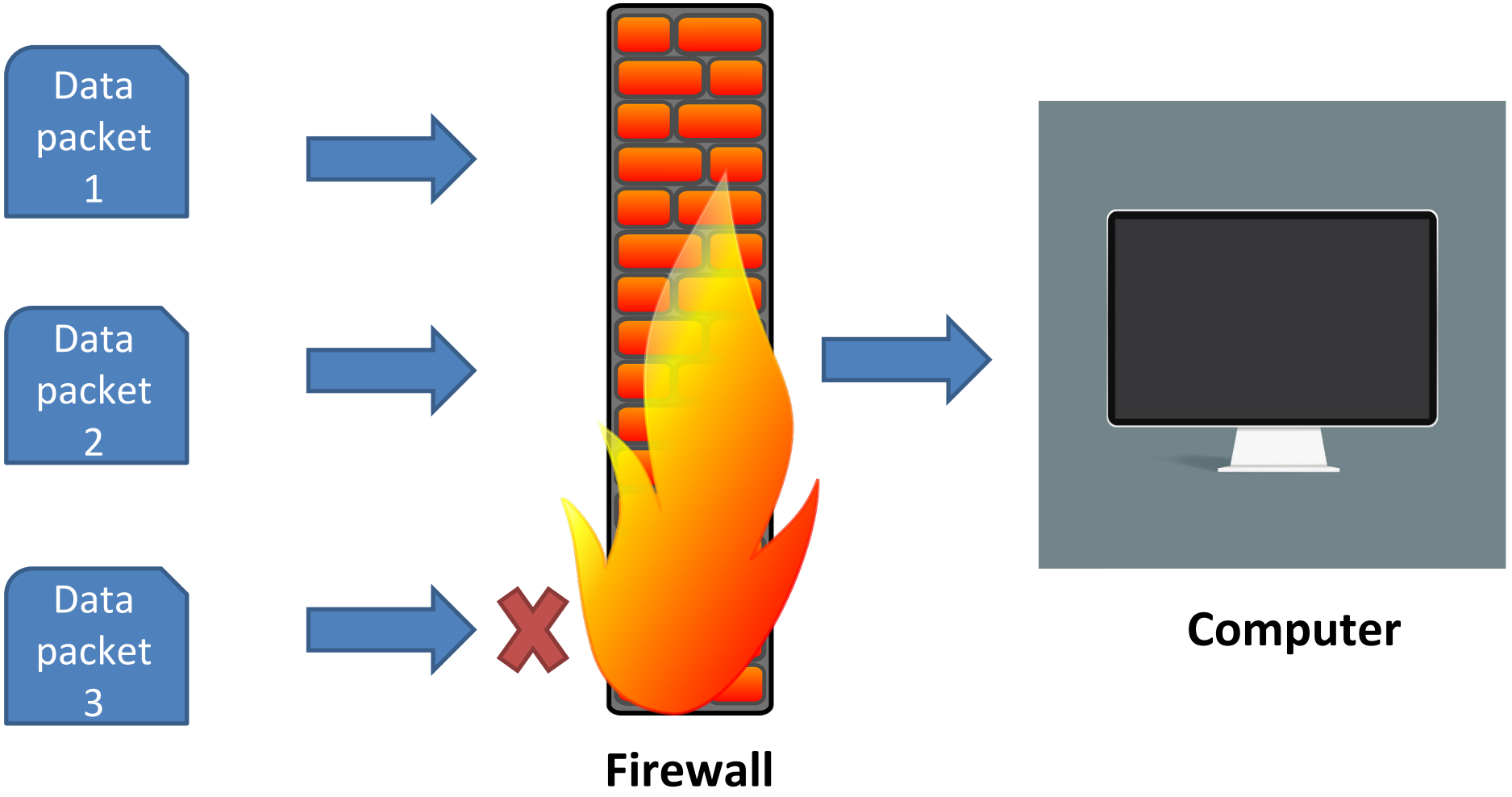
How does a Firewall work?



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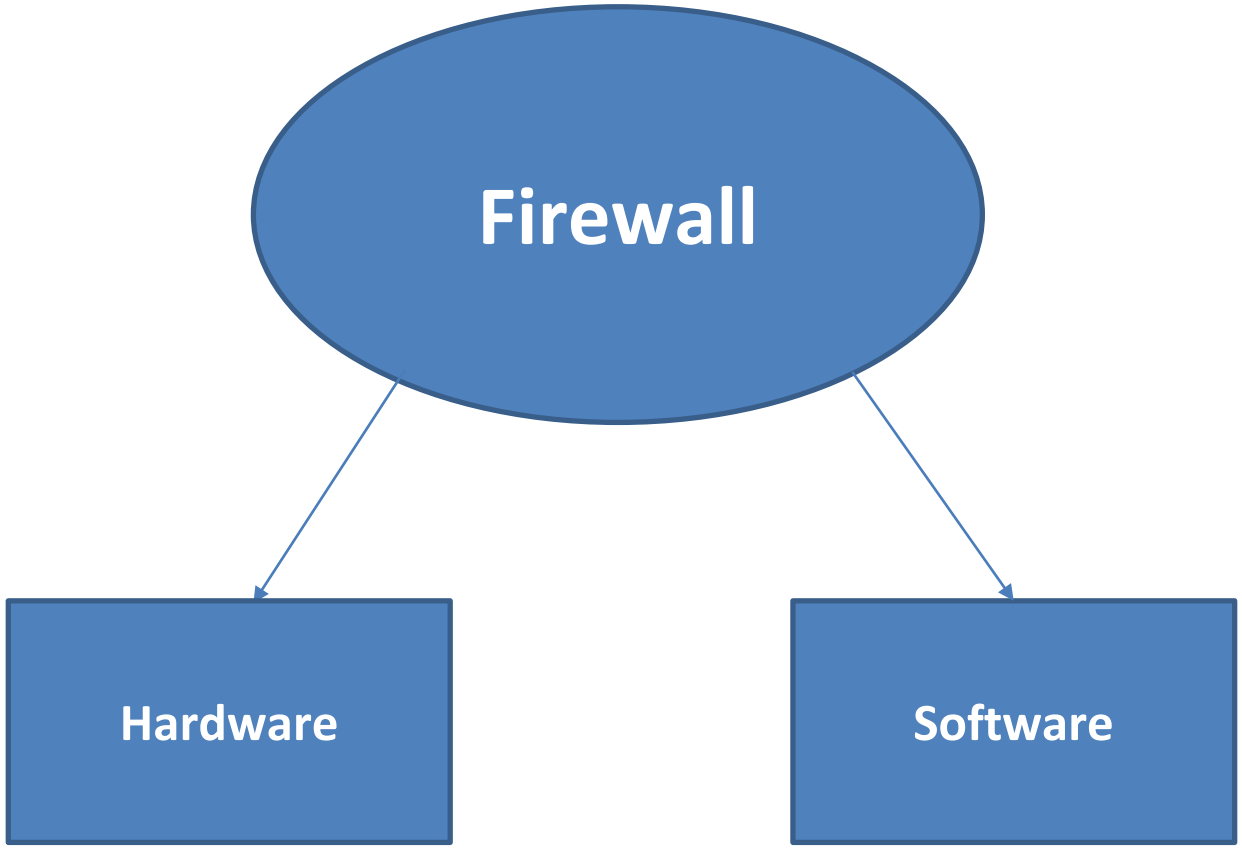

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Types of Firewall

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Types of Firewall

- Proxy Firewall
- Stateful inspection Firewall
- UTM Firewall
- Packet filtering Firewall
- NAT
- Circuit level gateway Firewall
- NGFW

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Proxy Firewall

- Filters data packets at application layer
- Most secure type of firewall
- Also known as Application Firewall
- Has its own IP address
- Creates new connection for every data packet

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Stateful inspection Firewall

- Traffic is allowed or blocked based on state, port and protocol
- Also known as dynamic packet filtering
- Monitors each connection constantly and checks if it is genuine
- Records session information like IP address and port numbers for better security

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UTMF

- Unified threat management (UTM) firewall
- UTM devices combine the functions of stateful inspection firewall , intrusion prevention and antivirus
- Popular UTM brands are Cisco, Fortinet, Sophos, Netgear etc.

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Packet filtering Firewall

- Oldest type of firewall
- Also known as static filtering
- The source IP and port ,destination IP and port are checked against the set of rules to determine whether to accept or block the data packet
- Stateless
- Fast, cheap and effective

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NAT Firewall

- Network address translation firewall
- Multiple private addresses are mapped to a public one before transferring the information
- Organizations usually employ multiple devices to a single IP address using NAT
- Protects the identity of the network

Types of NAT Firewall

- Static NAT
- Dynamic NAT
- PAT

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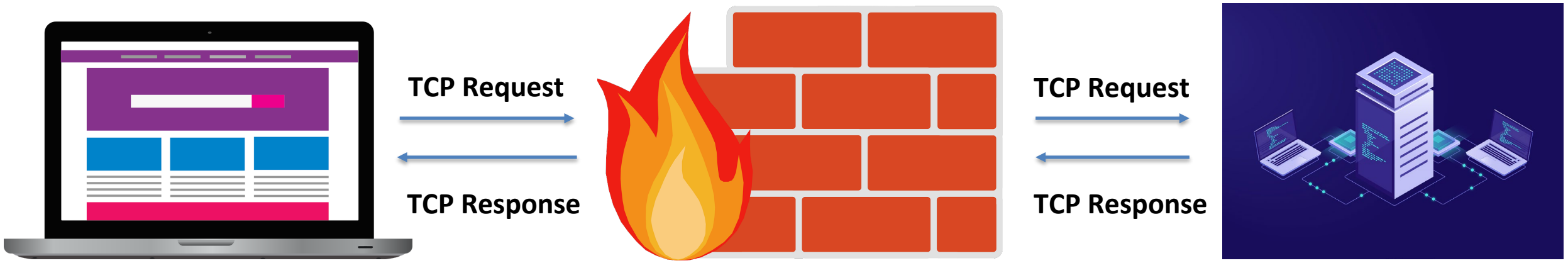
Circuit level gateway Firewall



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NGFW

- Next generation firewall
- Blocks modern threats
- Includes functions of packet filtering, NAT, stateful inspection and VPN
- Goal of NGFW is to improve filtering of network traffic

According to Gartner's definition, a next-generation firewall must include

- ✔ Stateful inspection
- ✔ Integrated intrusion prevention
- ✔ Capability to block risky apps
- ✔ Advanced techniques to handle various security threats

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Summary

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Thank You

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