

# **Blocking of services**

**DoS, DDoS, Jamming and Blocking of contents**

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# Table of contents

## 1. DoS Attack

1.1 Definition

1.2 Reasons for DoS Attacks

1.3 Purpose of DoS

1.4 How it works

# Table of contents

## 2. DDoS Attack

2.1 Definition of a botnetwork

2.2 Difference between DoS and DDoS

2.3 Countermeasures of internet providers

## 3. Jamming

3.1 History

3.2 Radio jamming and deceptions

3.3 Countermeasures



# Table of contents

## 4. Blocking contents

4.1 Restrictions set by authorized people

4.2 Legal actions by the government

4.3 Overblocking and underblocking

# DoS Attack

DoS Attack

DDoS Attack

Jamming

Blocking  
contents

5

# 1.1 Definition

- is called denial of Service
- stresses the internet connection
- floods the server
- do not require passwords



# 1.2 Reasons for DoS Attacks

- competition
- money
- terrorism
- boredom

# 1.3 Purpose of DoS

- overload server
- shut down server
- cause economic harm



# 1.4 How it works

- send redundant data → effects:
  - data can not be processed
  - server is overloaded
  - server stops working

**Service Unavailable**

HTTP Error 503. The service is unavailable

DoS Attack

DDoS Attack

Jamming

Blocking  
contents

9

# DDoS Attack

DoS Attack

DDoS Attack

Jamming

Blocking  
contents

10

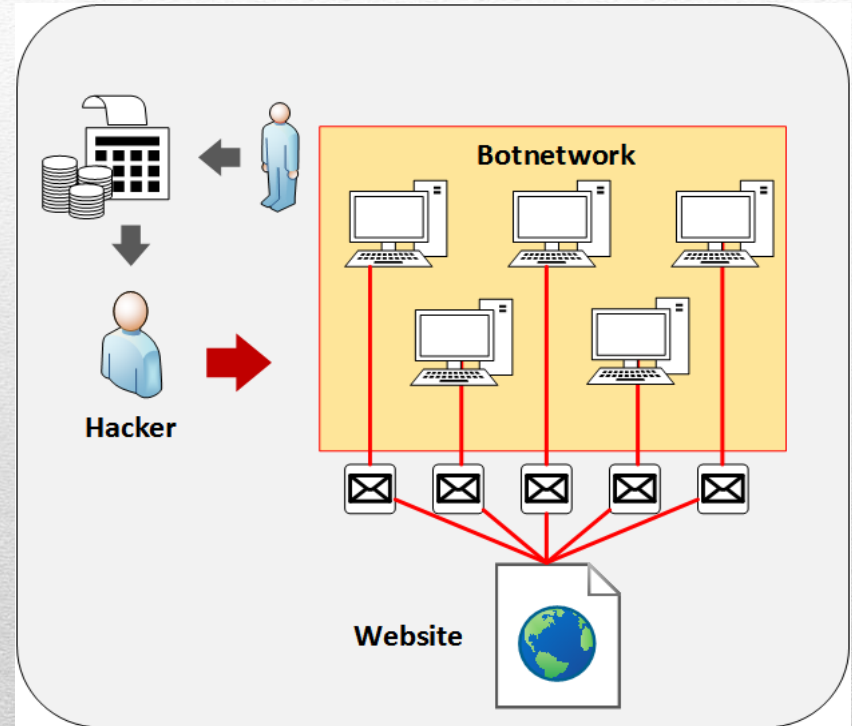
# 2.1 definition of a botnetwork

- mostly infected by a Trojan
  - Typ of a Virus
- caused by download on unsafe websites
- effects:
  - infection with a virus
  - control of computer



# 2.1 definition of a botnetwork

- A Botnetwork sends many requirements to one website.
- The hacker controls these bots.



# 2.2 Difference between DoS and DDoS

| DDoS  | DoS                       |
|---|---------------------------|
| Distributed Denial of Service               | Denial of Service         |
| several attacks by botnetwork<br>(many PCs) | single attack<br>(one PC) |

# 2.3 Countermeasures



## Server Operator:

- special software
  - On-Premise: programm in the internet server
  - In-the-Cloud: programm in the cloud from the server
- sufficient storage capacity on webserver



# 2.3 Countermeasures



## Users:

- Do not open E-Mail attachments
- Do not download from unsafe websites
- Install current software updates
- Install a virus scanner

# Jamming

DoS Attack

DDoS Attack

Jamming

Blocking  
contents

16

# Definition of jamming

- Jamming with any device
  - blocks,
  - jams,
  - interferes
- Authorized wireless communications



# 3.1 Jamming history

- Used in many wars
- Used to block content from other countries



# 3.2 Jamming types

- Mechanical jamming
  - chaff - metal strip frequency reflector
  - corner reflectors - many-sided objects
  - decoys - maneuverable flying object

# 3.3 Countermeasures

- Cloaking outgoing signal
- Limiting insecure communication
- Frequency hopping





# Blocking contents

DoS Attack

DDoS Attack

Jamming

Blocking  
contents

21

# 4. Definition of blocking contents

- Block content from users
- Block websites that violate law
- Keep people safe from dangerous sites



# 4.1 Restrictions set by authorized people

- Prevent users from surfing specific sites
- Set passwords for programs users should not use
- Limit usage



## 4.2 Legal actions by the government

- Government can block content from companies or citizens
- Government can block communication among companies
- Child online protection
- Govware

## 4.3 Underblocking

- Underblocking -
  - Filters fail to block all pornography websites and other adult content.
  - even if filters activated, children and young people can see pornography



# 4.4 Overblocking

- block websites that should be accessible
  - Facebook is blocked in China
  - Wikipedia in Turkey





Thank you for your  
Attention!