Security of Distributed Software

SS 2019 – 2. Tutorial

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Homework Tutorial 1

Which IT entities can become a target of attack?

Class	Objects	Examples
Network infrastructure	Router, Switches, Connections	Cable break, Flooding, Sniffing, MAC-Spoofing, Routing/Switching-Tables
End devices	Clients (PC, Laptops, Smartphones, IoT), Server, Proxies, Gateways	Physical takeover / destruction
Operating systems	Protocols, Libraries, Data stock (user & rights management, certificates)	SYN-Flooding, updates restraint, ping-of-death, Rootkits, Exploits, Virus, Worms
Applications and services	DNS/Mail/Web services, Browser, Firewalls, FTP, Database, Web apps	XSS, CSRF, Brute-Force, SQL-Injection, Dictionary attack, Port scanning
Users	Laziness, Inattention, Ignorance (Social Engineering)	Password guessing, phishing

1 Task 1

If you do not have any Linux system on your PC, install and get acquainted with the following virtual machine:

https://mytuc.org/cntn

Or install gcc 4.9 or below on your system.

Task 2

Consider program *over.c*. It accepts incoming connections on a given port and ask the communication partner for a password („lula“) to show a secret

- Think about, what can be entered to show the secret without knowing the password
- Compile the Program (cc over.c –o over), start it on some free port (./over 9000) and connect to it using telnet (telnet localhost 9000). Enter your string

Task 3

Get acquainted with the tool Wireshark (available on the image from task 1; should be started with root rights)

Request the resource http://vsr-wss1.informatik.tu-chemnitz.de using a browser and record the transferred data using Wireshark.

- What is the structure of HTTP messages?
- Which HTTP Header are sent and what is their meaning?

4 Task 4

The program *zugriff* can be used to access http://vsr-wss1.informatik.tu-chemnitz.de/zugriff/feier.xhtml, which is otherwise not possible due to missing username and password.

- Find out in RFC2617, how HTTP Basic Authentication works.
- Find out username and password required to access the above resource. Find out where the completely secret party takes place!

Questions?

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