Security of Distributed Software

SS 2020 – 8. Tutorial

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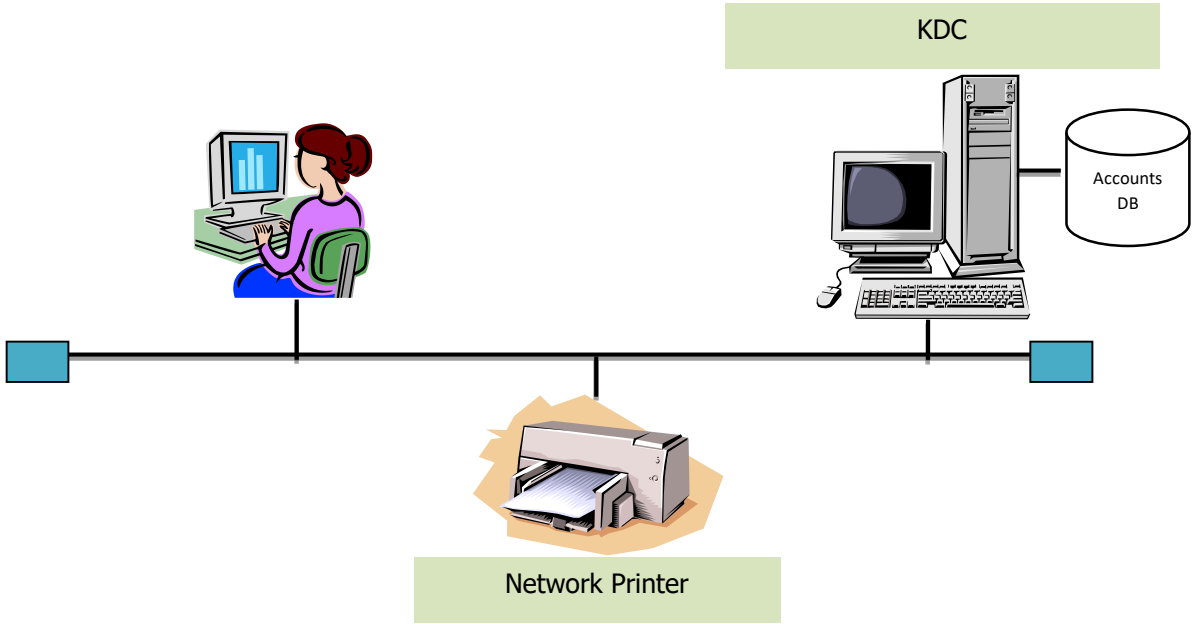
1 Task 1


KDC
Accounts
DB
Network Printer

1. Alice wants to use a network printer out of her text editor. Both, editor and printer, are connected to a KDC.
   Describe how both can obtain a session key to exchange data confidentially.

   What are the advantages of using KDC?

2. Eve is able to sniff the traffic between editor, KDC and printer during key echange.
   Is she able to decrypt the sniffed data key?

3. After sniffing data Eve was successful interrupting communication between editor and printer. She forwards the unmodified sniffed data to the printer.
   Is she now able to impersonate Alice?

4. Eve wants to bypass KDC and access the printer directly.
   Is it possible?

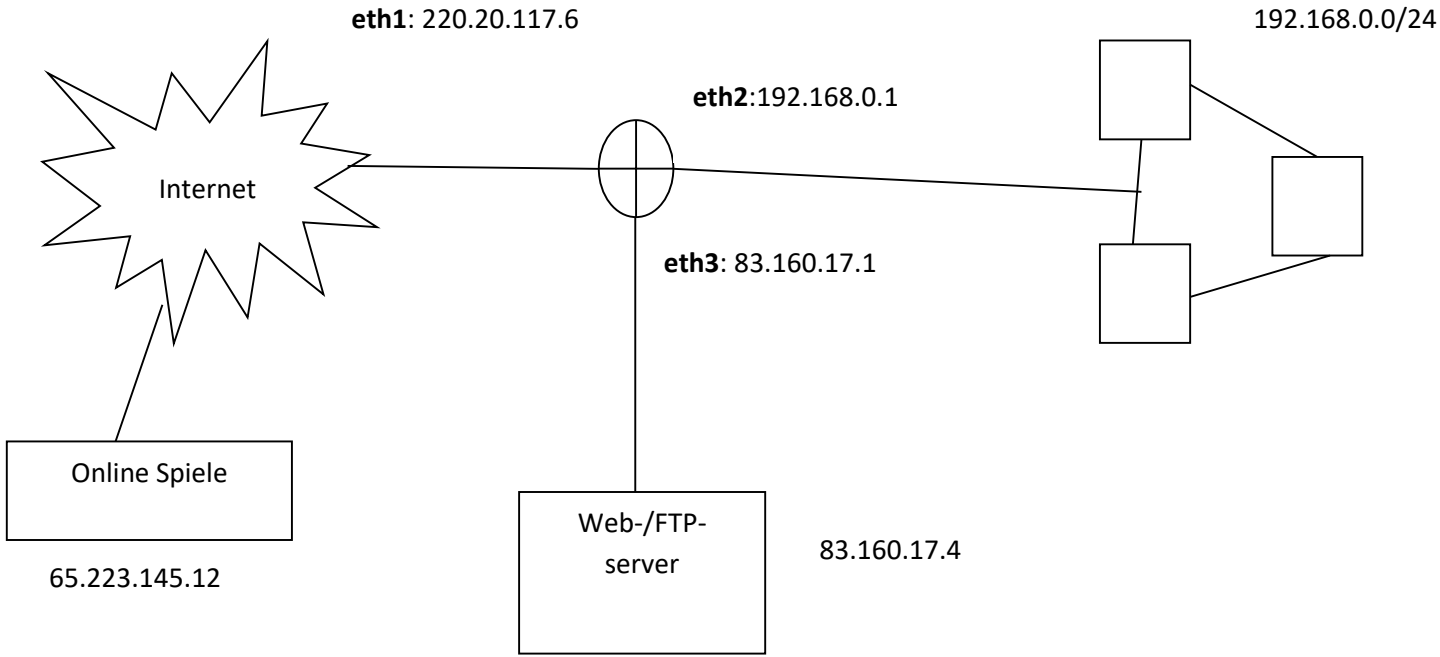
Task 2

1. The operation system of Alice has Kerberos integration. Alice wants to sign in into the system. Describe how the authentication process takes place.

2. Alice wants to access a Kerberos-enabled POP3 service.
   Does she have to re-enter her password?

3. How does the POP3 service check if the request comes really from Alice?
   What are the timestamps used for?

Task 3


eth1: 220.20.117.6
192.168.0.0/24
eth2:192.168.0.1
Internet
eth3: 83.160.17.1
Online Spiele
65.223.145.12
Web-/FTP-
server
83.160.17.4

Action	Protocol	Interface	From	To	Port
Permit	TCP	Any	any/any	83.160.17.4	443
Permit	TCP	Eth2	192.168.0.0/24	83.160.17.4	21
Permit	TCP	Eth2	192.168.0.6	83.160.17.4	22
Permit	TCP	Eth2	192.168.0.7	83.160.17.4	22
Deny	any	Eth2	192.168.0.0/24	65.223.145.12	any
Permit	TCP	Eth2	192.168.0.0/24	any	any
Permit	UDP	Eth2	192.168.0.0/24	any	53
Deny	any	any	any	any	any

VSR

Your feedback on today's session:

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Questions?

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