

③ If customer want to send 1000 \rightarrow S.K.
So p.g. may check if 1000 Rup available
then money send to S.K bank account

+ w. help of P.G. Customer S.K. gets
the msg of debit & credit.

* Email Attack.

attacks attack on the user email
in this

Types of E. Attack.

① phishing - to get user credentials
such as username, psd ^{sending} through
fake email id, fake msg,
fake domain

② vishing, ③ smishing, #

④ whaling - It's that w. is phishing
attack that target high profile
person from the org. i.e
senior executives, politician, celebrities

⑤ spyware - It's a software that
enable criminal to get information
about user's computer activity.

⑥ spam - junk mail,
In such cases spam is method
of advertisement.

protectn \rightarrow ① check spelling of domain.
② be careful when opening of unknown
source

③ use strong psd - 2 Auth. in email

④ use antiviruses & anti-malware

* Firewall.

① It's network security tool system.

② that monitor & control incoming
& outgoing data into system. ^{receiving}
^{sending} data.

③ It prevent unwanted data from
entering into our system

④ It avoid the data will cause harm
to our system

firewall design principles.

① Developing security policy.

- According to client request.

- Ac. to ~~incoming~~ traffic (incoming traffic)

② e.g. in c/g database - (students,
faculty website)

③ e.g. Railway booking system website.
- n no. of people booking, canceling
tickets,
so All are traffic

② simple design \Rightarrow easy maintain,
new updates or easy update.
when design is simple

③ choosing right device.

Suppose we are designing a firewall
on system / Laptop then it should
be very secure.

- not use outdated system to design
firewall.

④ layered defense. -
design should be multilayered.

L-1 harmful data

L-2 IF harmful data try to enter into
device so 1st layer will discard
that data due to high security.

It will not accept to enter into
another layer.

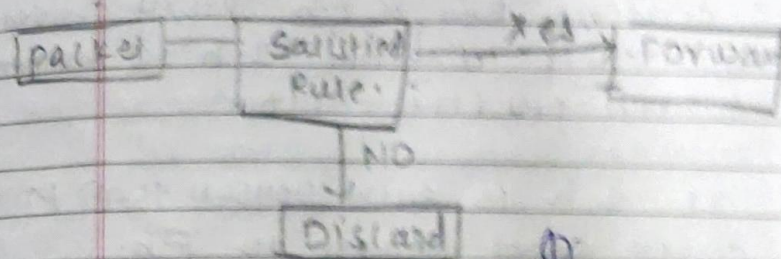
⑤ consider internal threats.

from inside of device what
kind of threats can arise.

Types of Firewall.

① packet Filtering Firewall (PFF)
(data)

This Firewall applies on each
incoming packet (data) & then
forward the packet if rules are
satisfied otherwise discard.



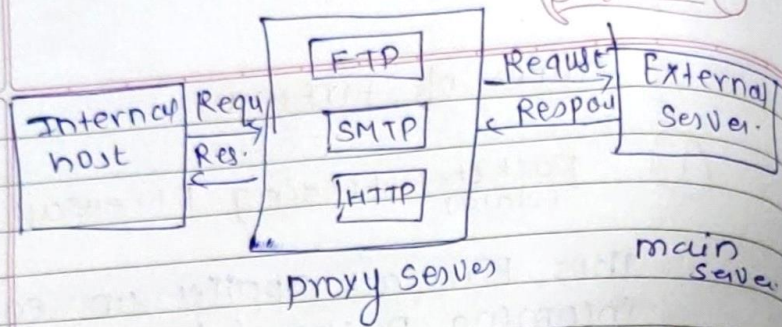
Rules \rightarrow based on source ip,
② destination ip,
③ protocol & ports.

④ filtering table, \rightarrow maintain (decide)
⑤ simple but less secure. (accept or deny)

② Application level Gateway (ALG)

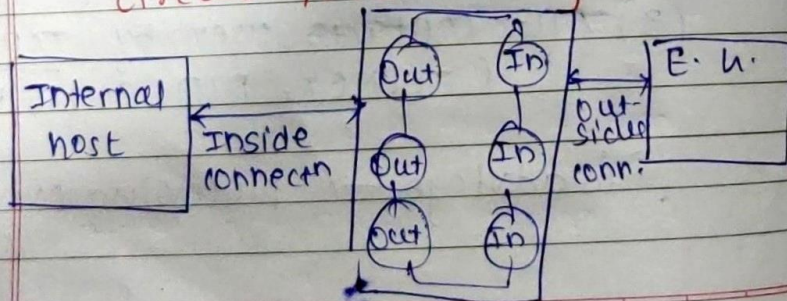
① Also called proxy server
② more secure than PFF
③ ALG contacts user by TCP/IP protocol
(TELNET, FTP, SMTP, HTTP, etc)

Disadvantage \rightarrow processing overhead.



- ① Internal host want to commⁿ to E.h
- ② I.h send Req to E.h but before sending Req to E.h proxy server will check whether I.h is Authenticated person or not
- ③ If I.h is Auth. person then proxy server send Request to E.h.
- ④ Now E.h ^{send to} Response the request, before sending response again proxy s. check authenticity of E.h ^{Response}
- ⑤ If Auth person then proxy server send the Response to I.h.

③ circuit level Gateway (CLG)



(Gateway)

- Date _____
Page _____
- ① same as ALG. instead of Proxys → ^{Gate} way
 - ② More secure than other two type
 - ③ It uses 2 TCP connectn.
 1. btw Internal h. & Gateway.
 2. btw Ext. h & Gateway.
 - ④ All Internal & External connections are managed in Gateway.
All protocol, which port being used All will manage by Gateway.

* Penetration Testing. (pen testing)

It's kind of technique to test or check the vulnerability, threats, & risk that attack might be used to exploit the system applⁿ, network

It help an orgⁿ.

- ① Find weakness in system.
- ② Find Robustness of controls.
- ③ support compliance with privacy & security.

phases.

① Reconnaissance -

collect all information of attacker as possible from public & private sources to know the attacker strategy.

② scanning -

pen tester use tool to examine the attacker website / system for weakness including services, security issues & vulnerability.

Also use tool on what they find during reconnaissance.

③ Gaining Access -

Attacker motive is to steal, harm or corrupt the data.

To perform each test case, pen tester find the best tool & technique to gain access to the system

whether device will harm by SQL injection, malware etc.

④ Maintaining Access.

★ Pen Testing Method.

① External Testing - This testing test