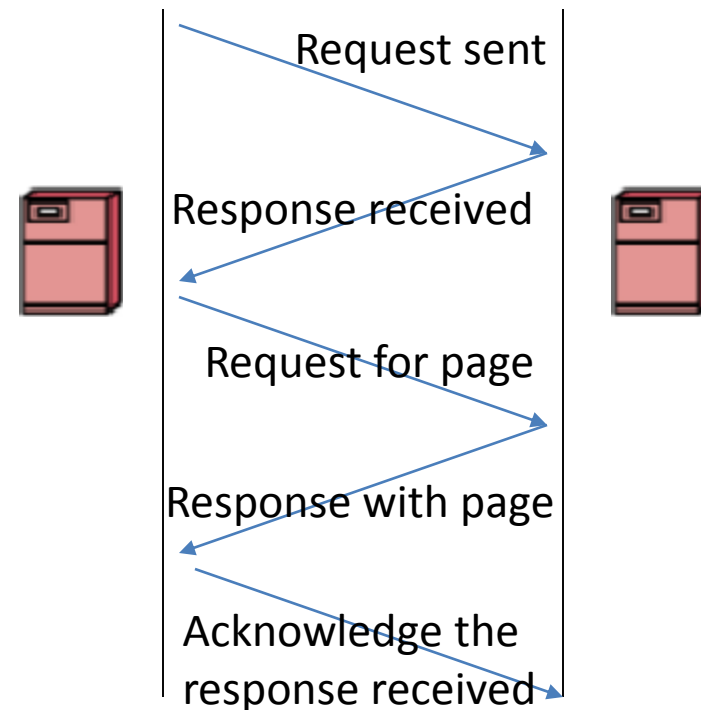


# WEEK 2 COURSE HANDOUT

# DIGITAL NETWORKS

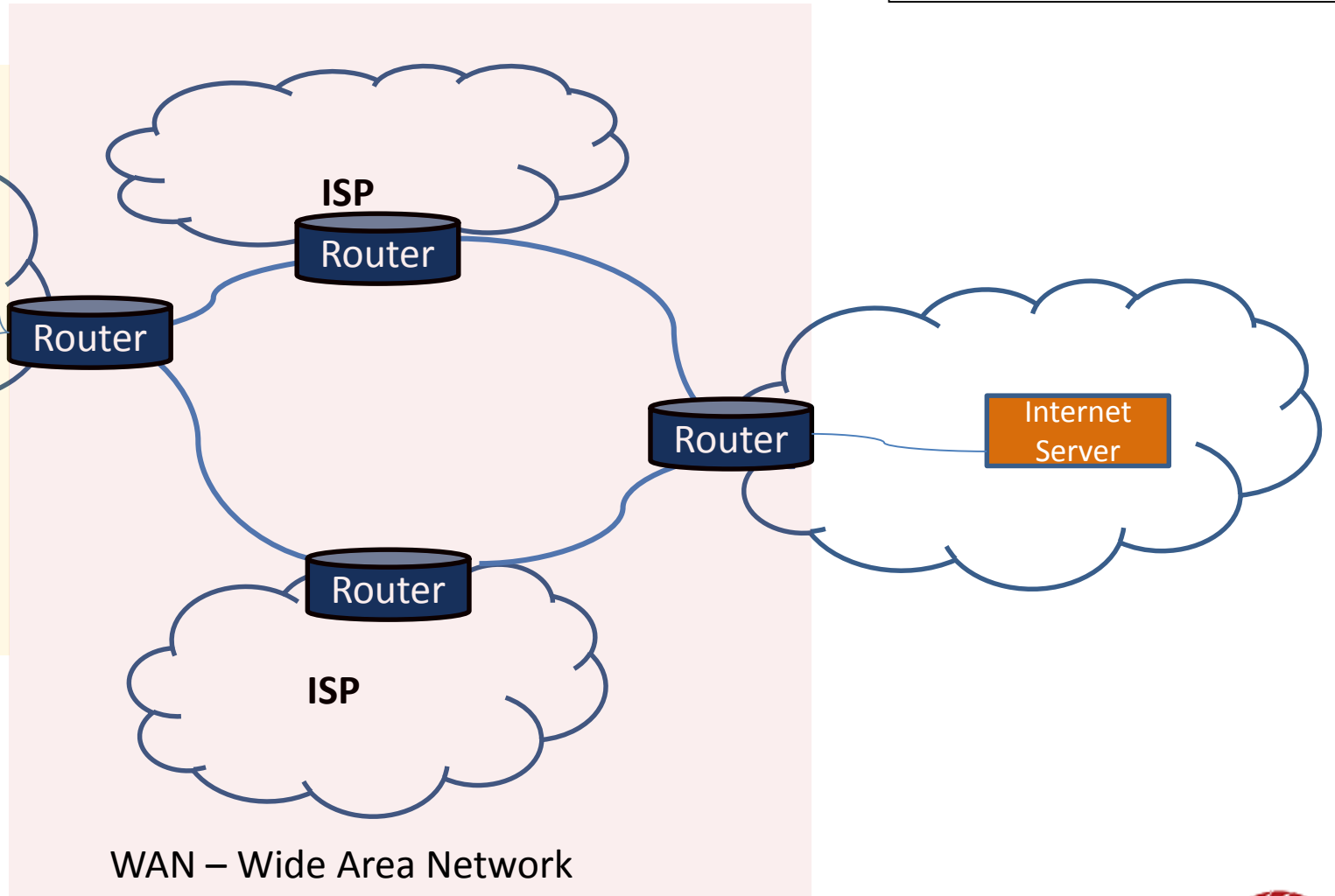
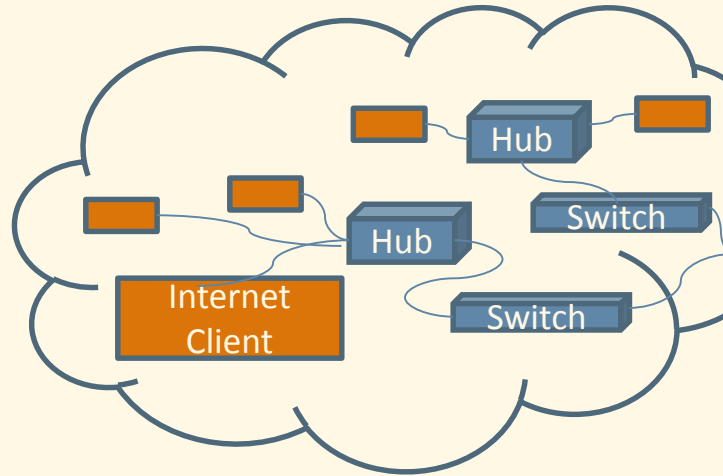
# Network Protocols

- Internet is a collection of protocols
- Protocol is an agreed upon standard



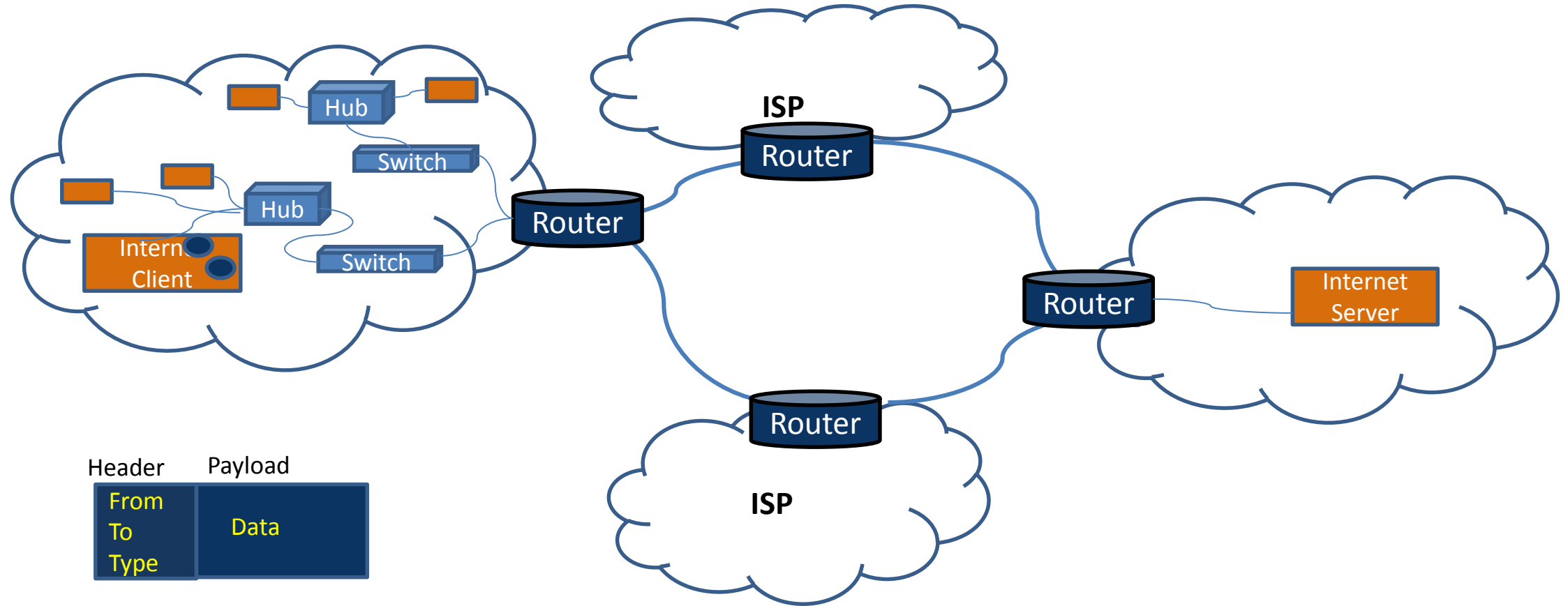
# Network Architecture

LAN – Local Area Network



WAN – Wide Area Network

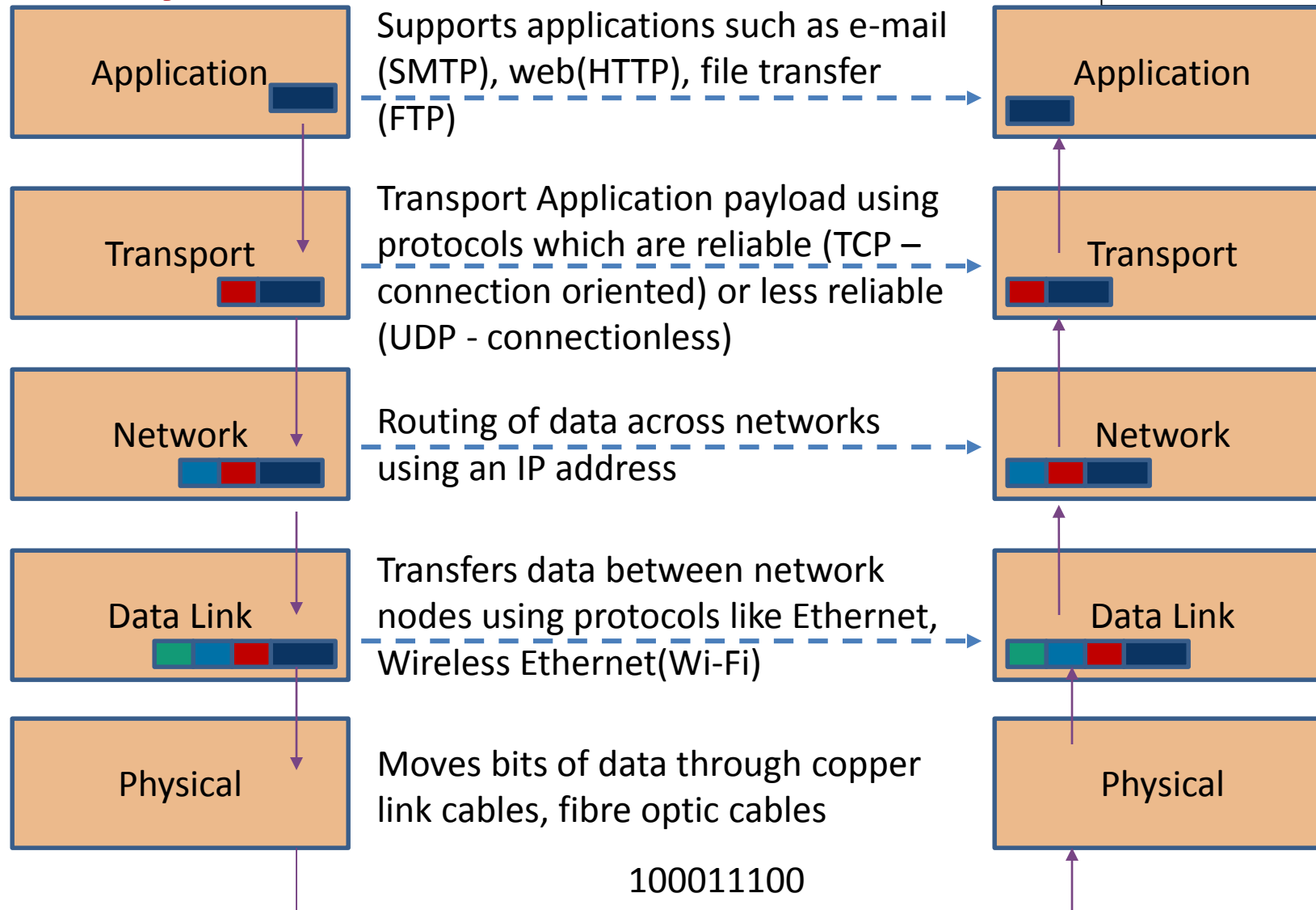
# Packet Lifecycle – Packet Switched Network



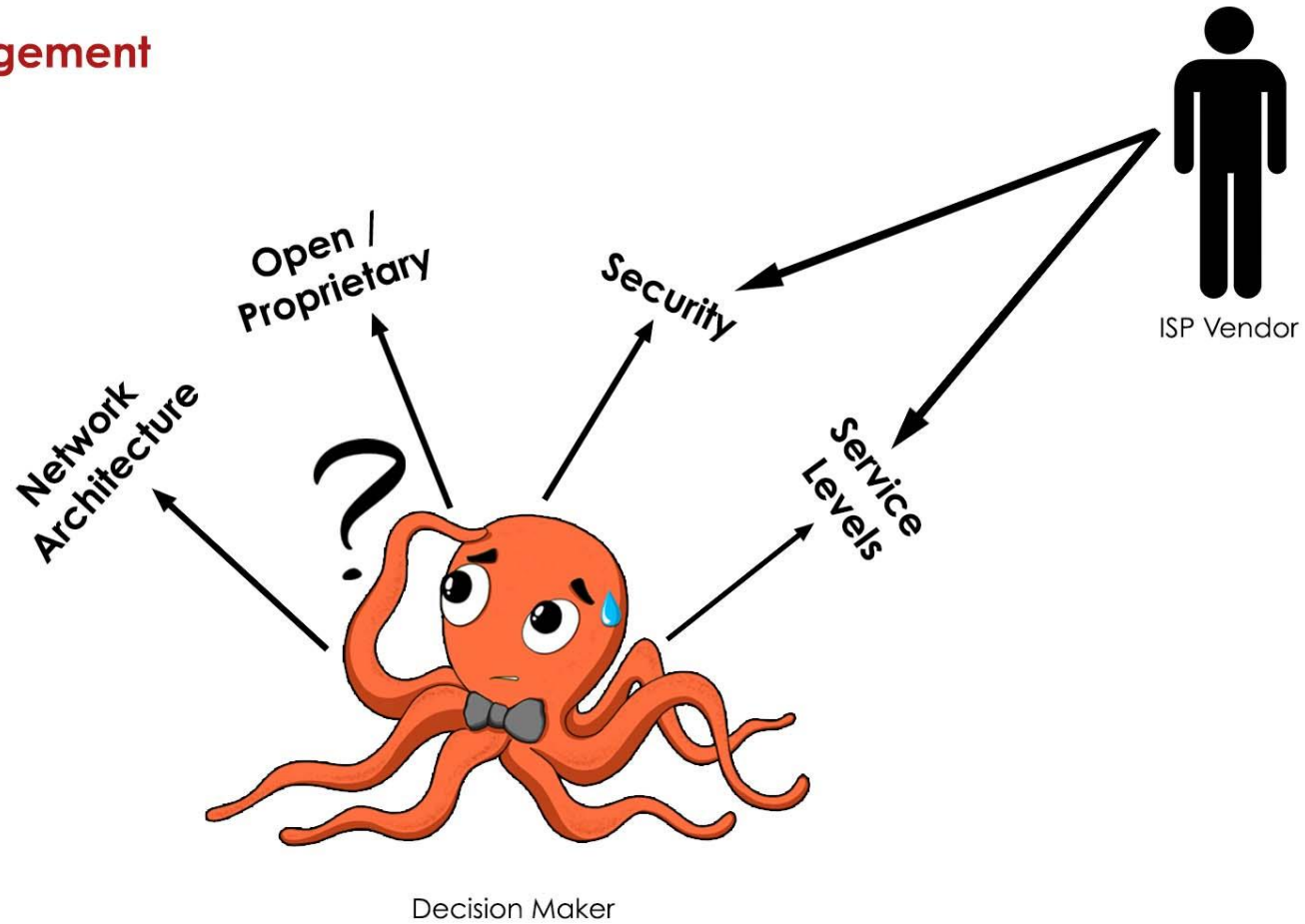
Header	Payload
From	Data
To	
Type	

Example of a Packet

# TCP/IP Network Layers and their functions



## Network Management



# DIGITAL SECURITY



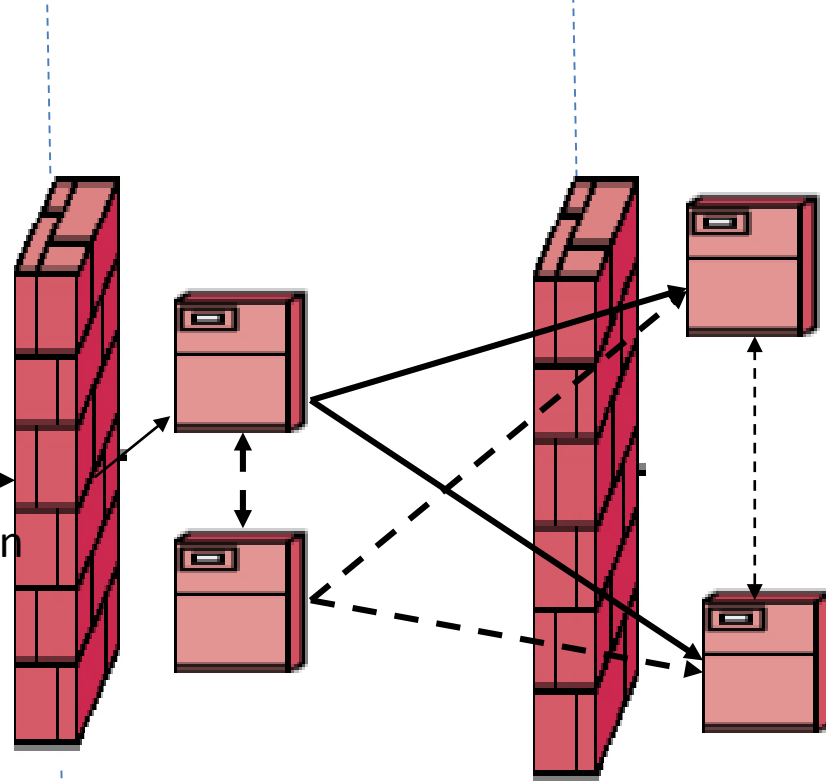
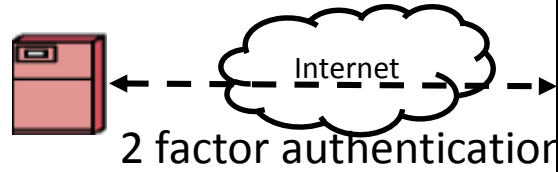
# Managing Security

Innovation and IT Management  
Prof. Rahul De', IIM Bangalore

Confidentiality

Message Integrity

Password Policy



Active Server

Standby Server

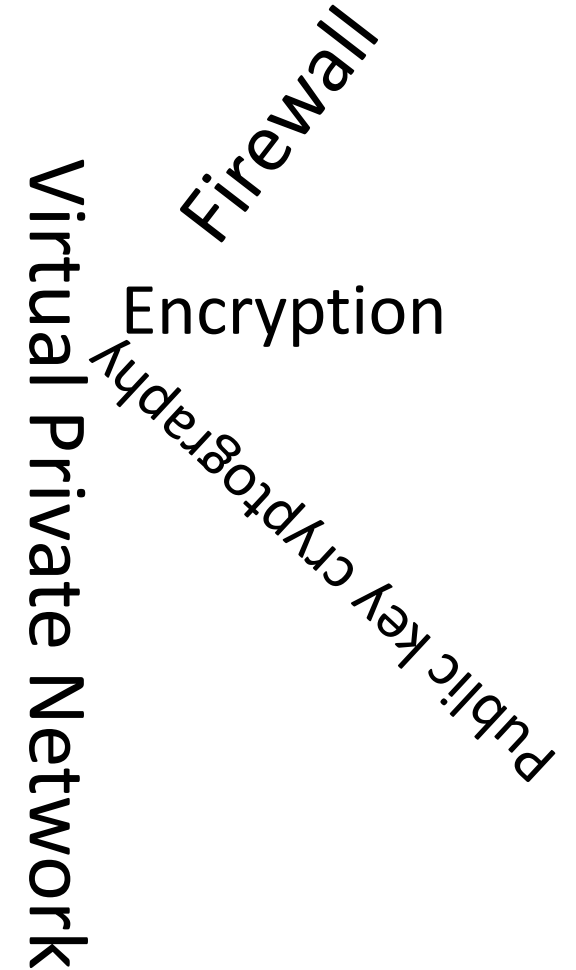
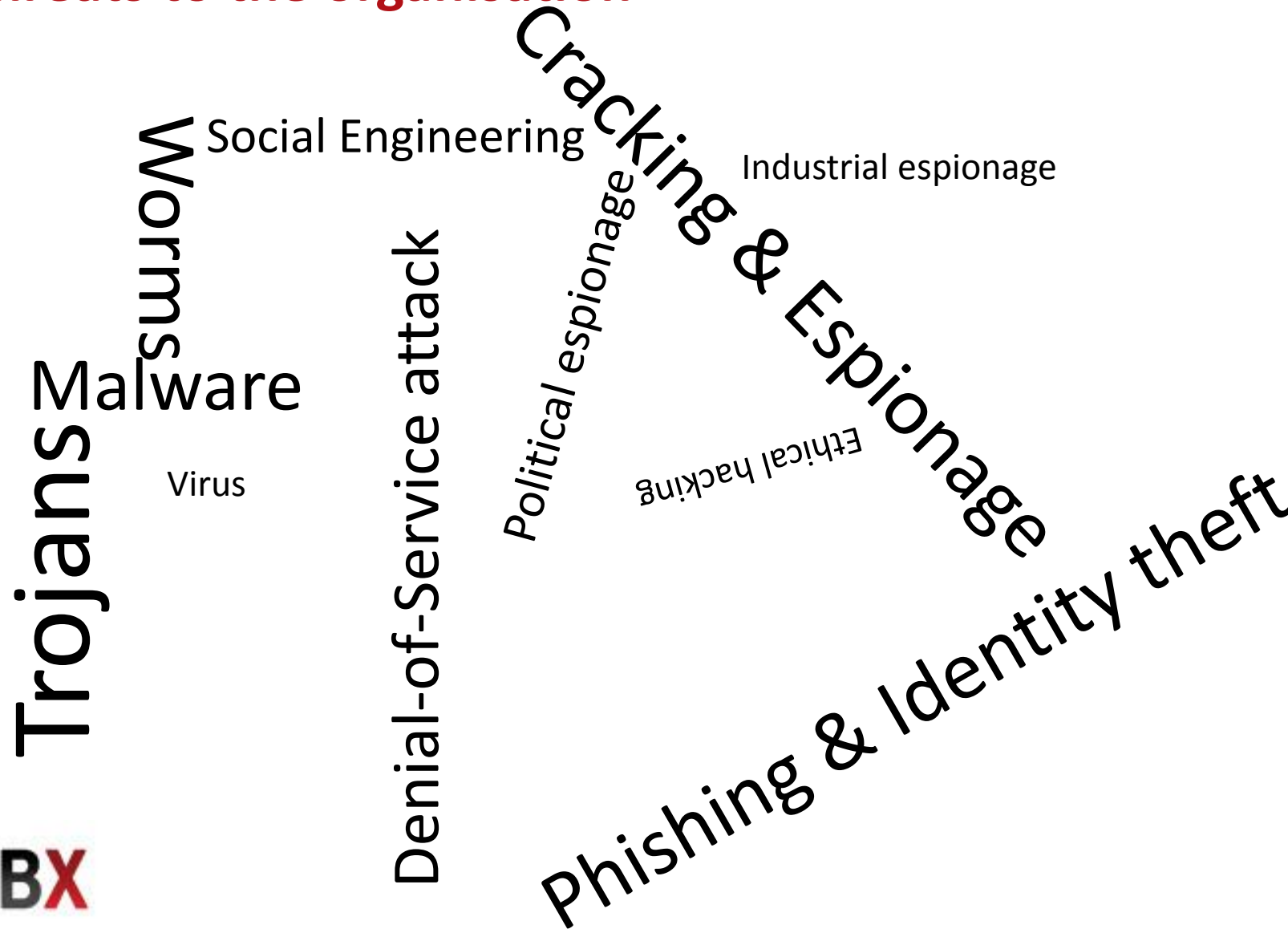
Audit & Risk Assessment

Authentication

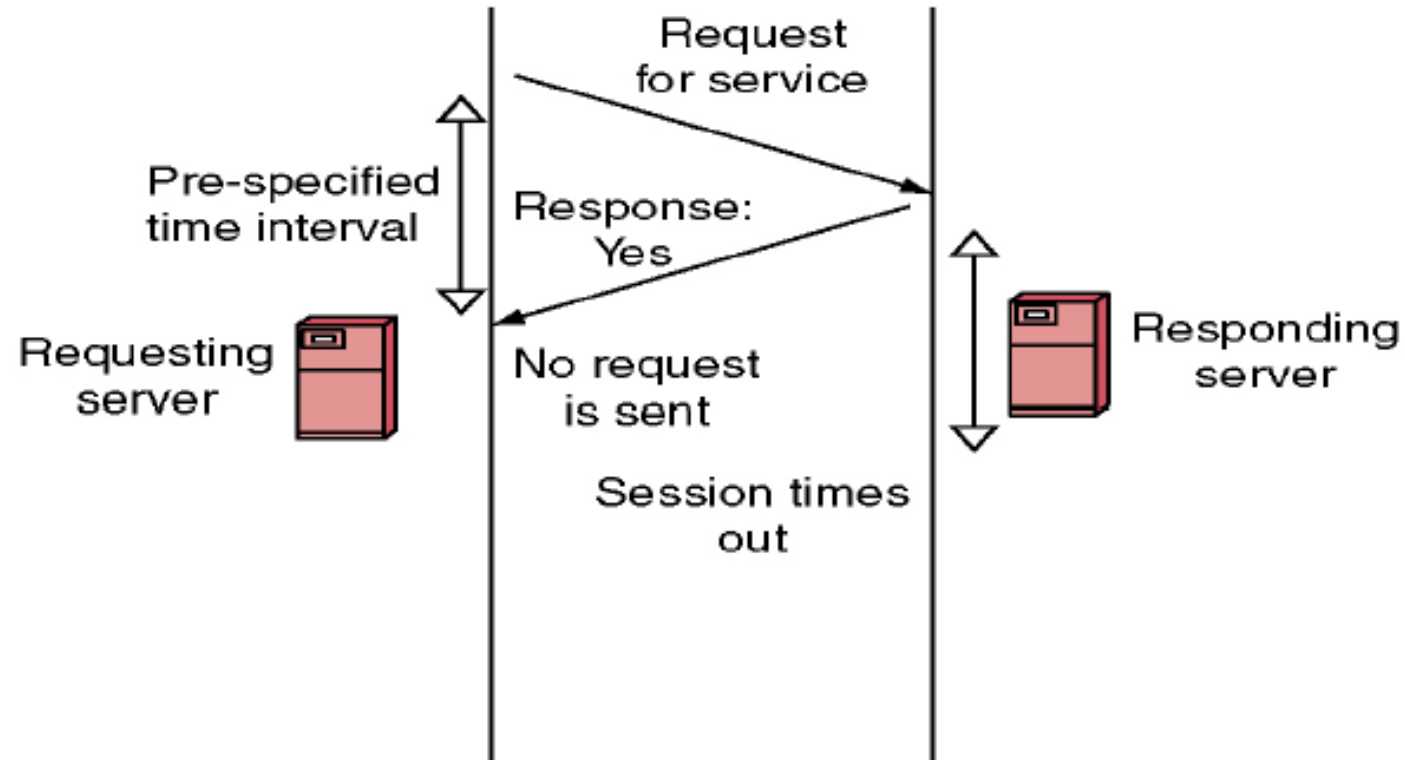
Access Availability

## Threats to the organisation

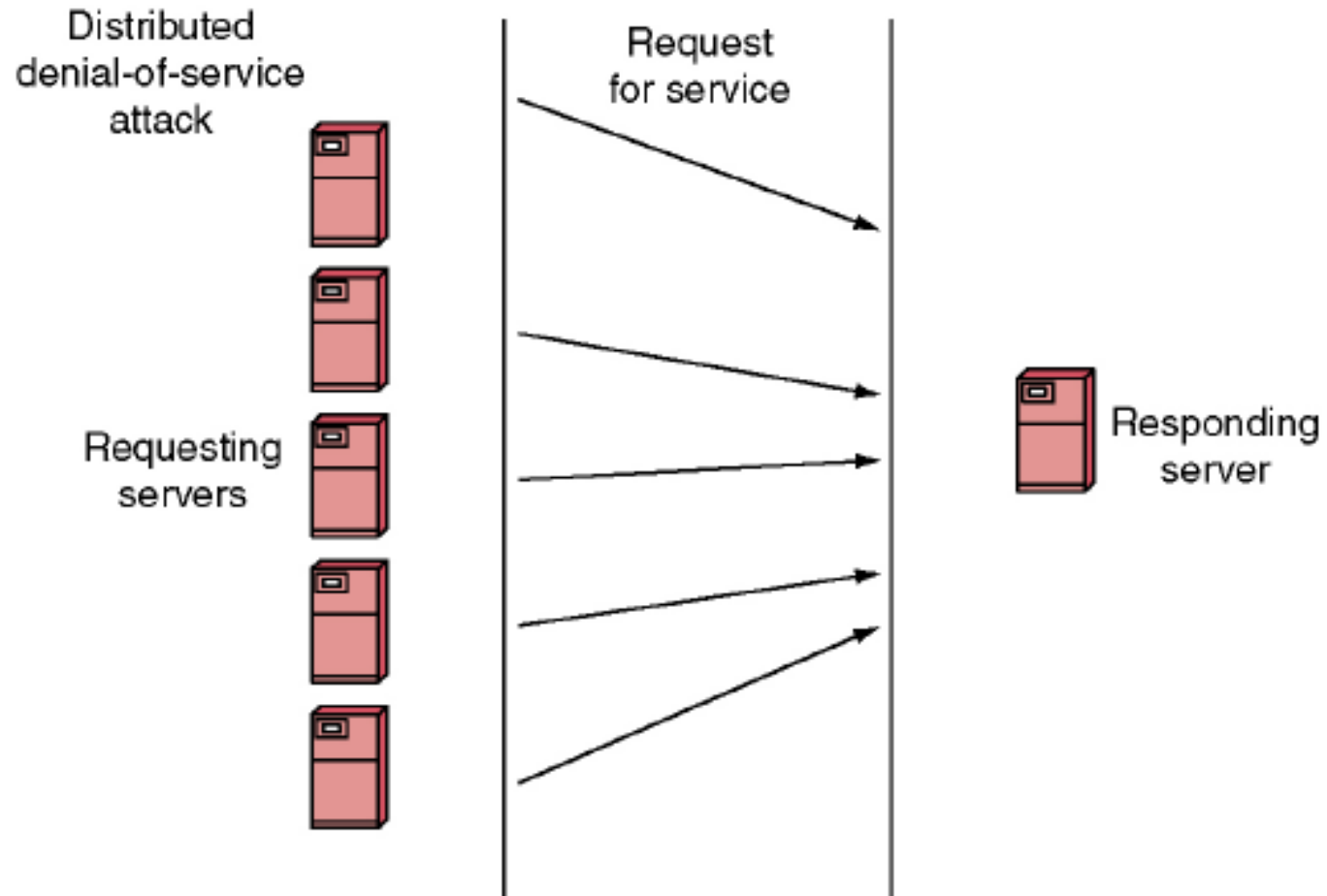
## Countermeasures



# Denial-of-Service attack

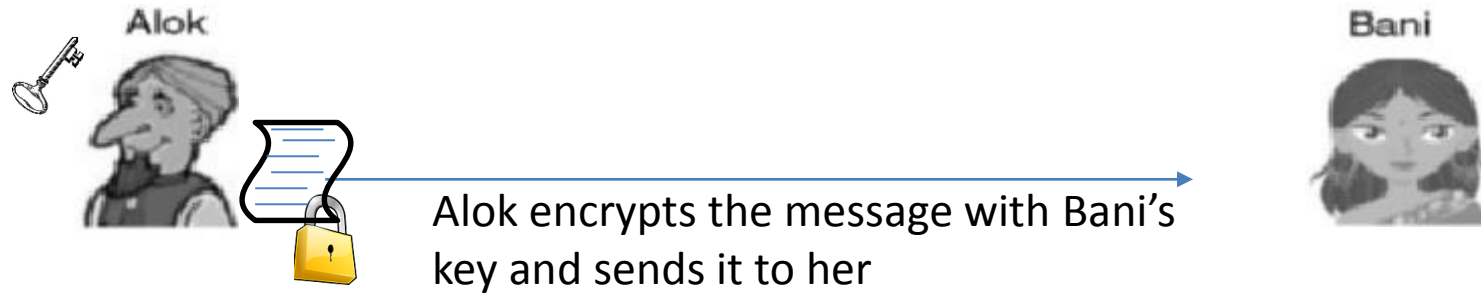


# Distributed Denial-of-Service attack

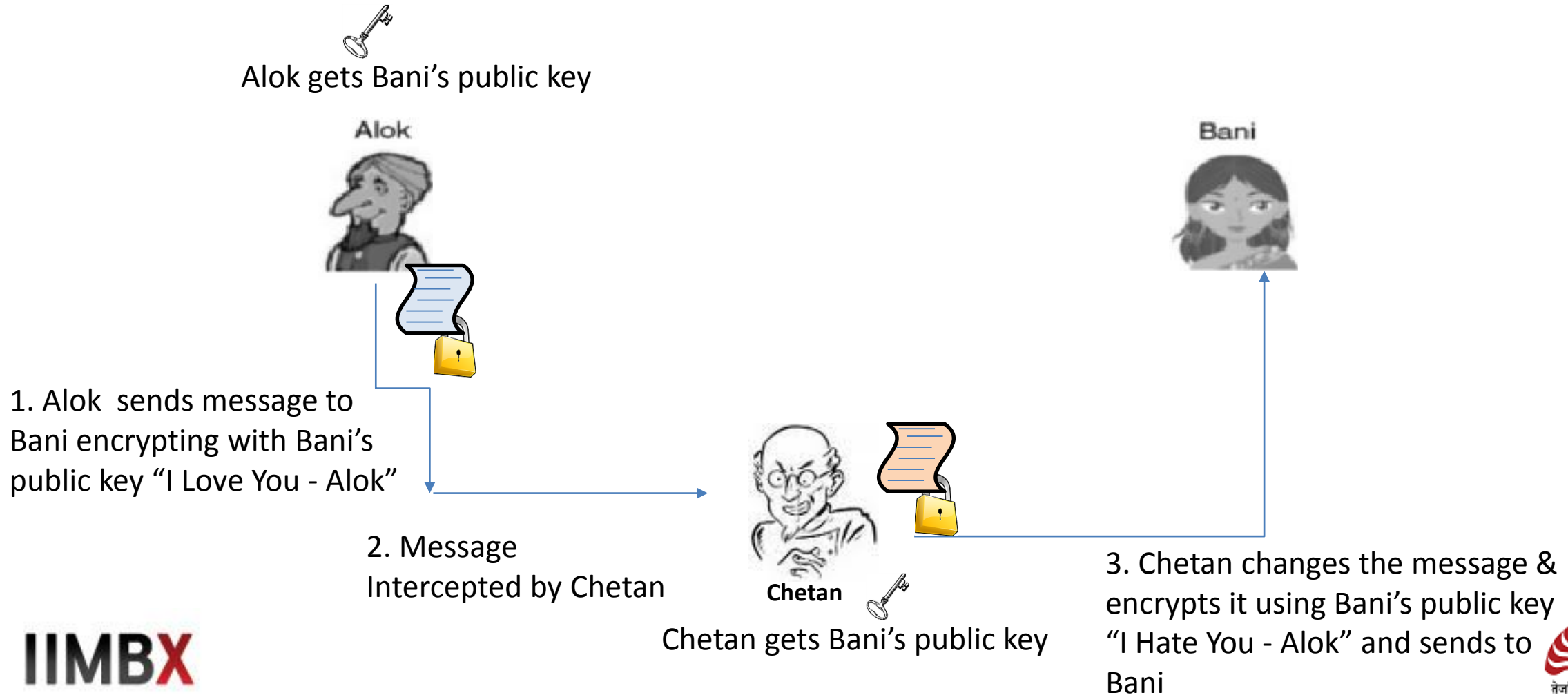


# Public Key Cryptography

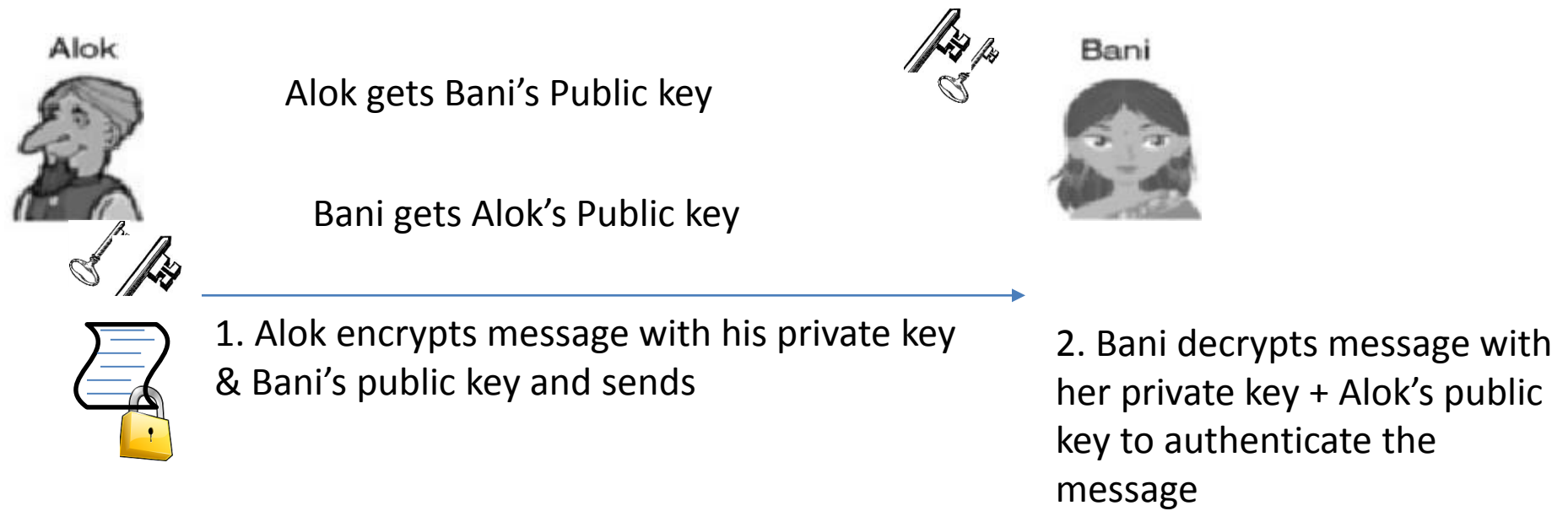
Alok gets Bani's public key



# Public Key Cryptography – Impersonation problem

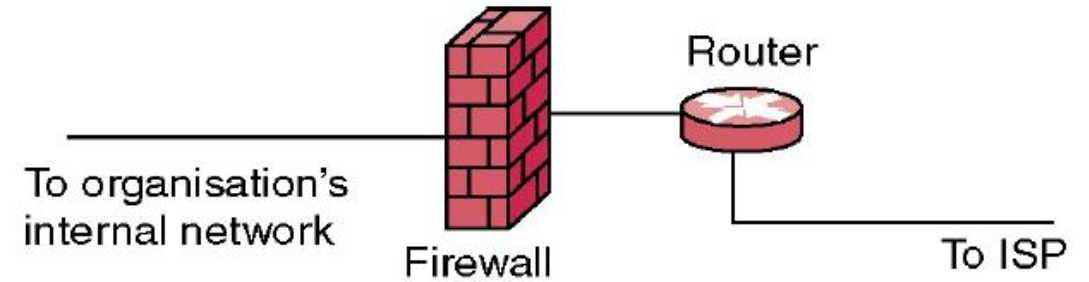


# Authentication with Public Key Cryptography



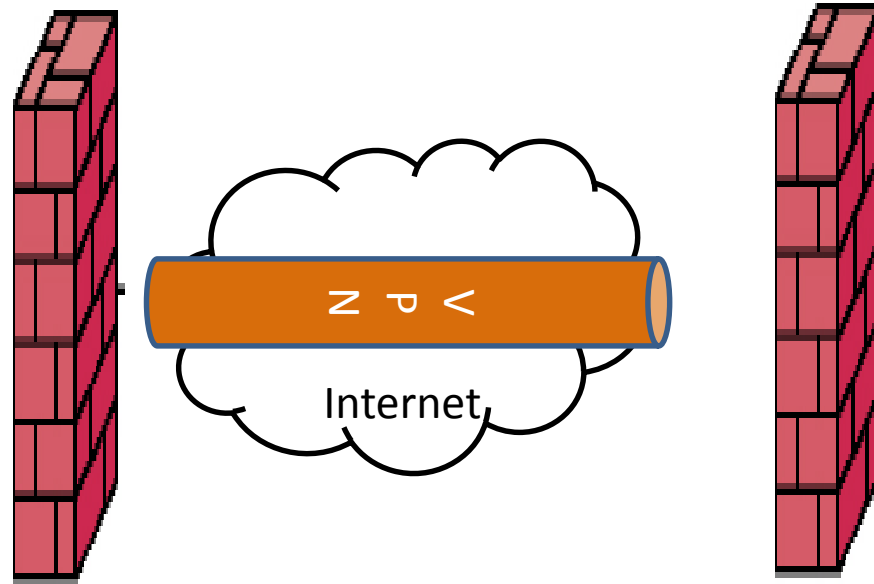
# Firewall

- Filtering & protection device – hardware & software
  - Packet level filtering
  - Application level filtering
  - Deep packet inspection





# Virtual Private Network



Connect securely over internet

Creates a secure tunnel using encryption and authentication