Computer Networks Foundations

Computer Networks

Author: Eng. Carlos Andrés Sierra, M.Sc.
carlos.andres.sierra.v@gmail.com

Lecturer
Computer Engineer
School of Engineering
Universidad Distrital Francisco José de Caldas

2024-I

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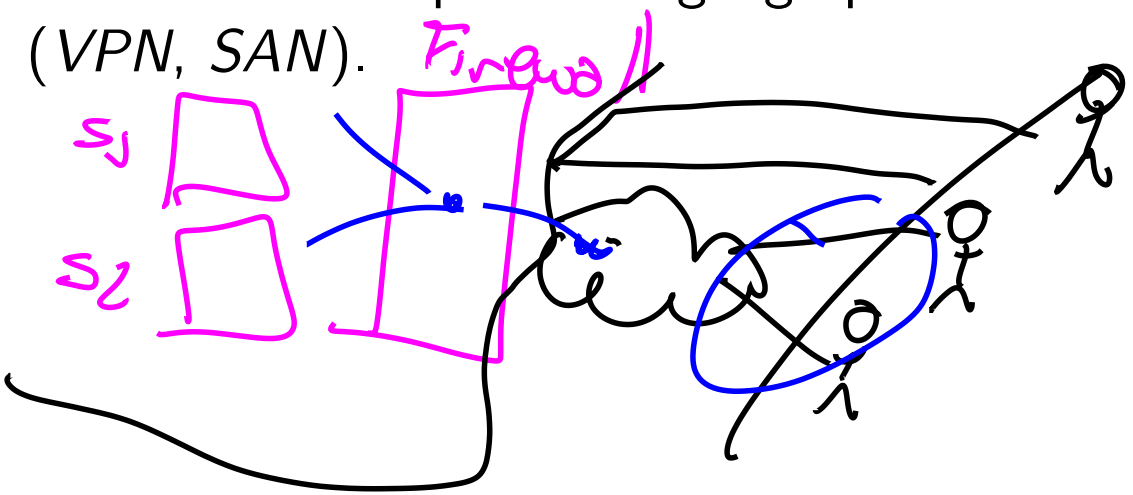
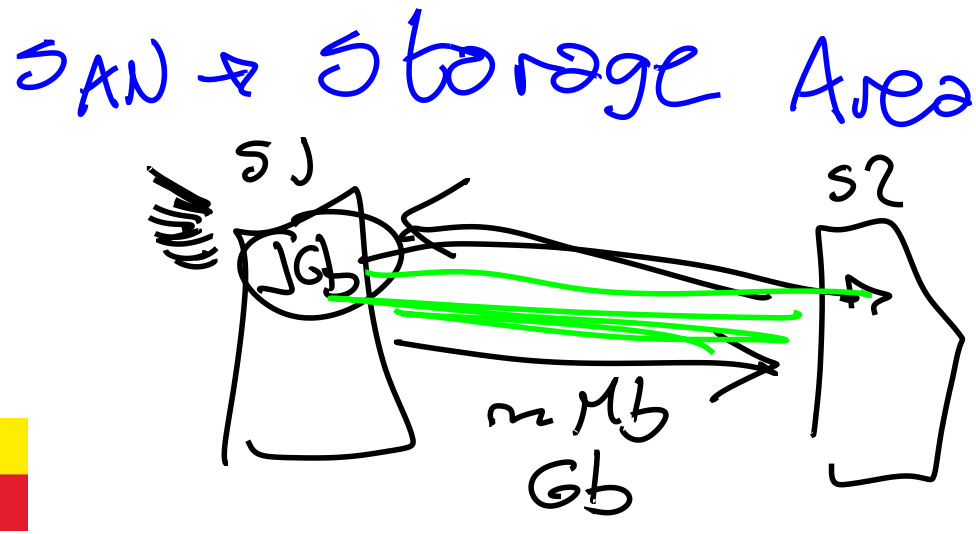
Basic Classification

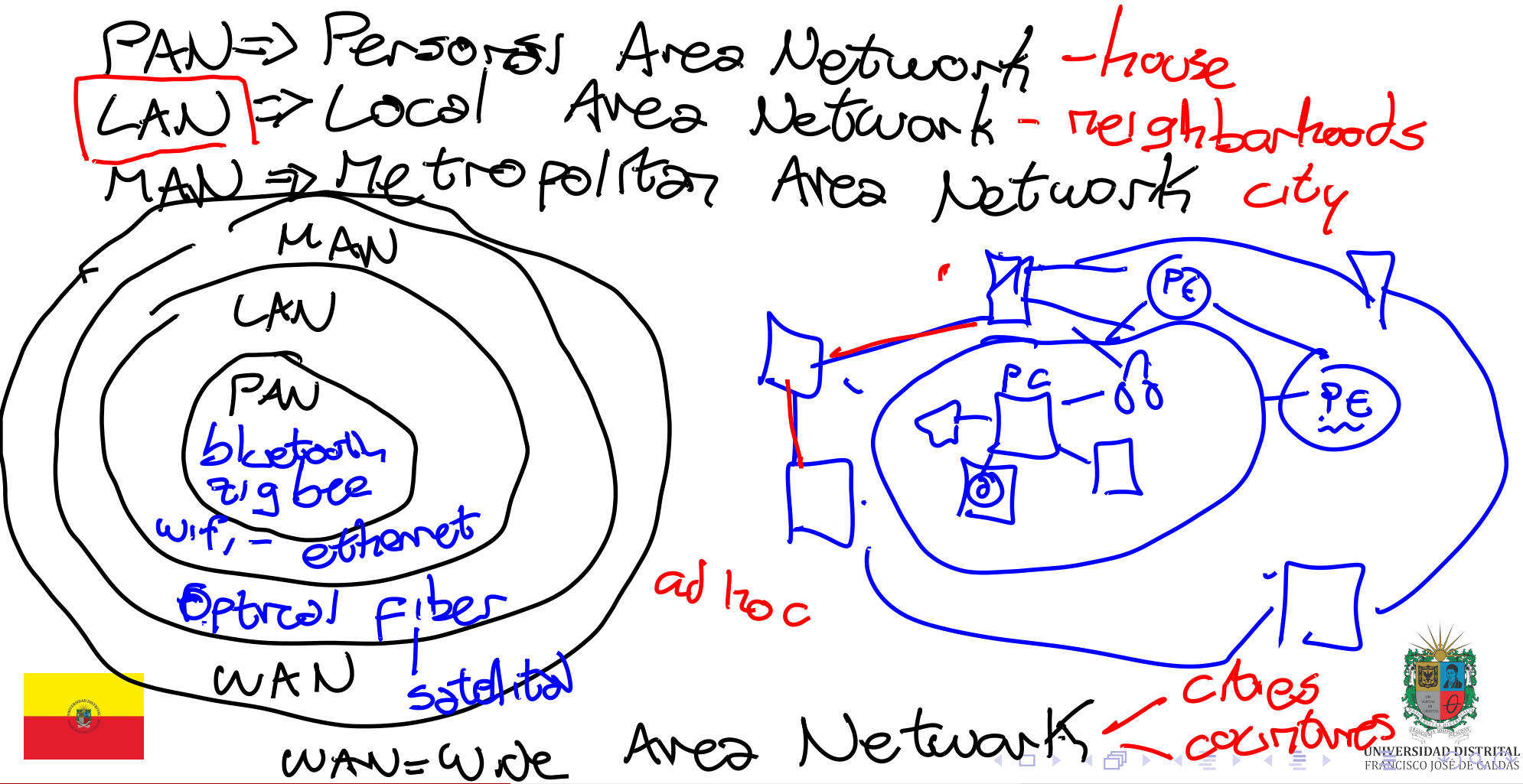
Classification depends on geographical distribution or services shared (*VPN*, *SAN*).





Work Area Classification

Work area Classification depends on network size and geographical distribution. In this case, we have: *PAN*, *LAN*, *MAN*, and *WAN*.



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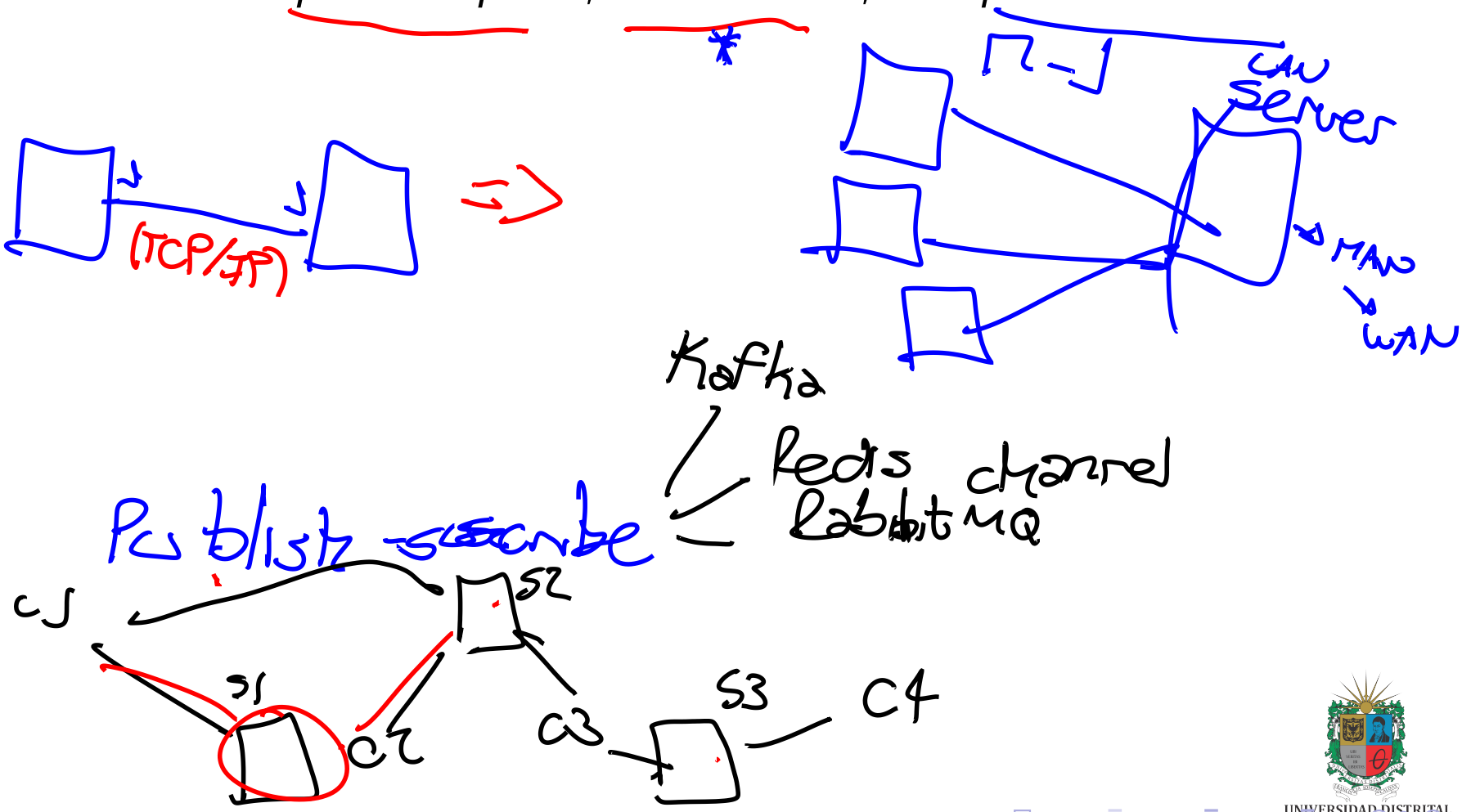
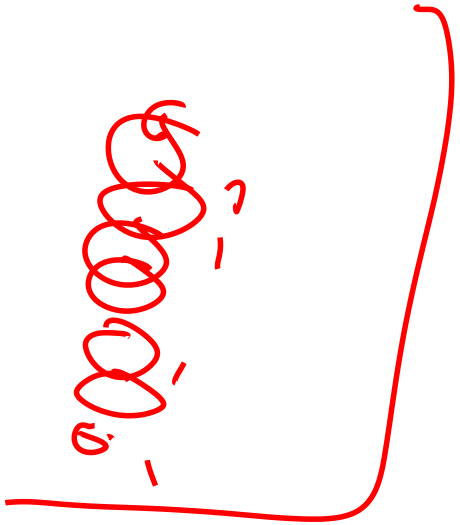
Communication Models

Communication models must be choosed depending of domain needs.
Typical models are: *point-to-point*, *client-server*, and *publish-suscribe*.



Communication Standards

First at all, protocols are defined as set of standarized rules. There are two types of protocols: de facto and de jure.



De facto: non-official standards.

De jure: standards provided by ISO/IEEE

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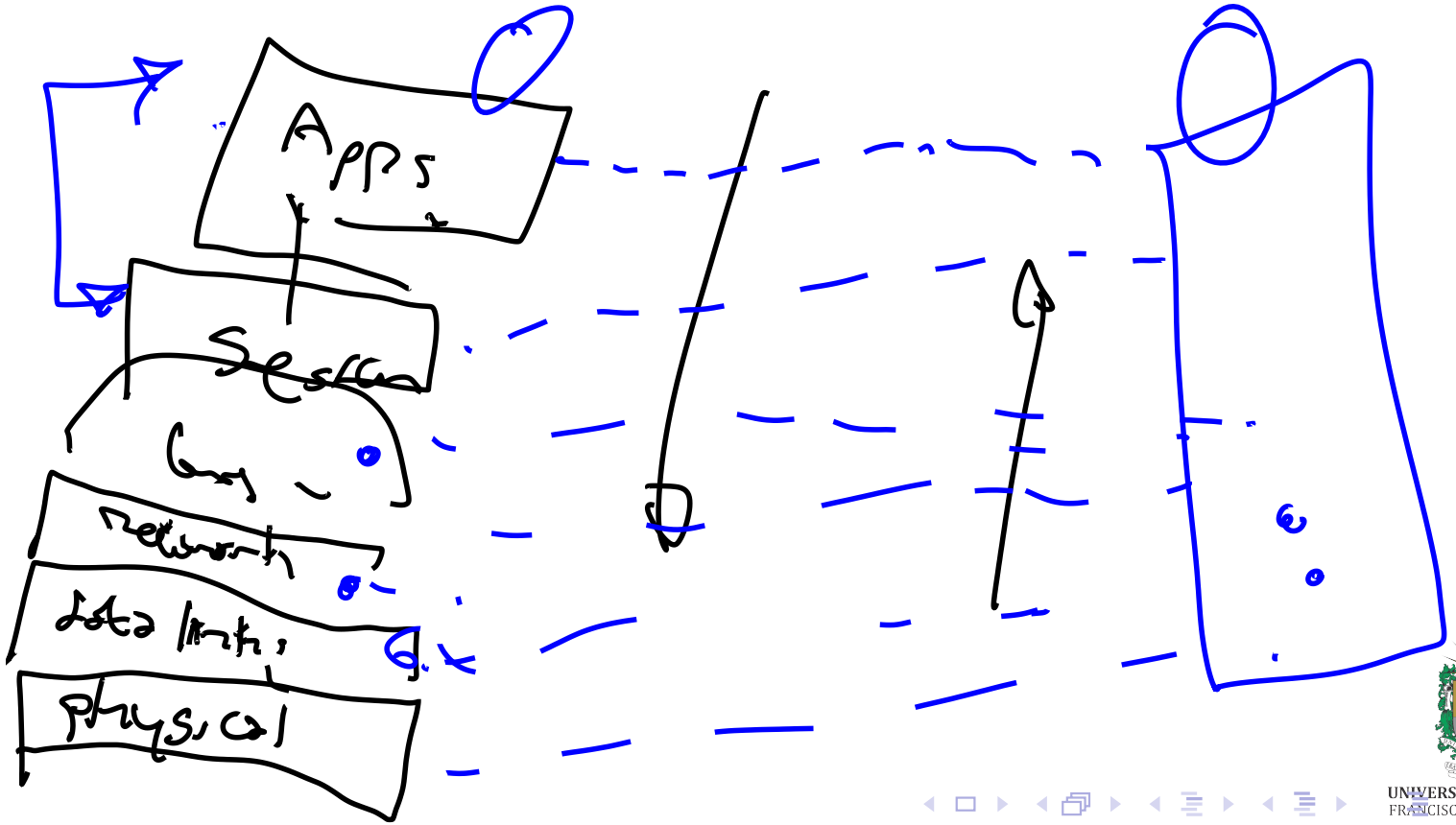
OSI Model

Open Systems Interconnection (OSI) model describes seven layers: *physical*, *data link*, *network*, *transport*, *session*, *presentation*, and *application*.

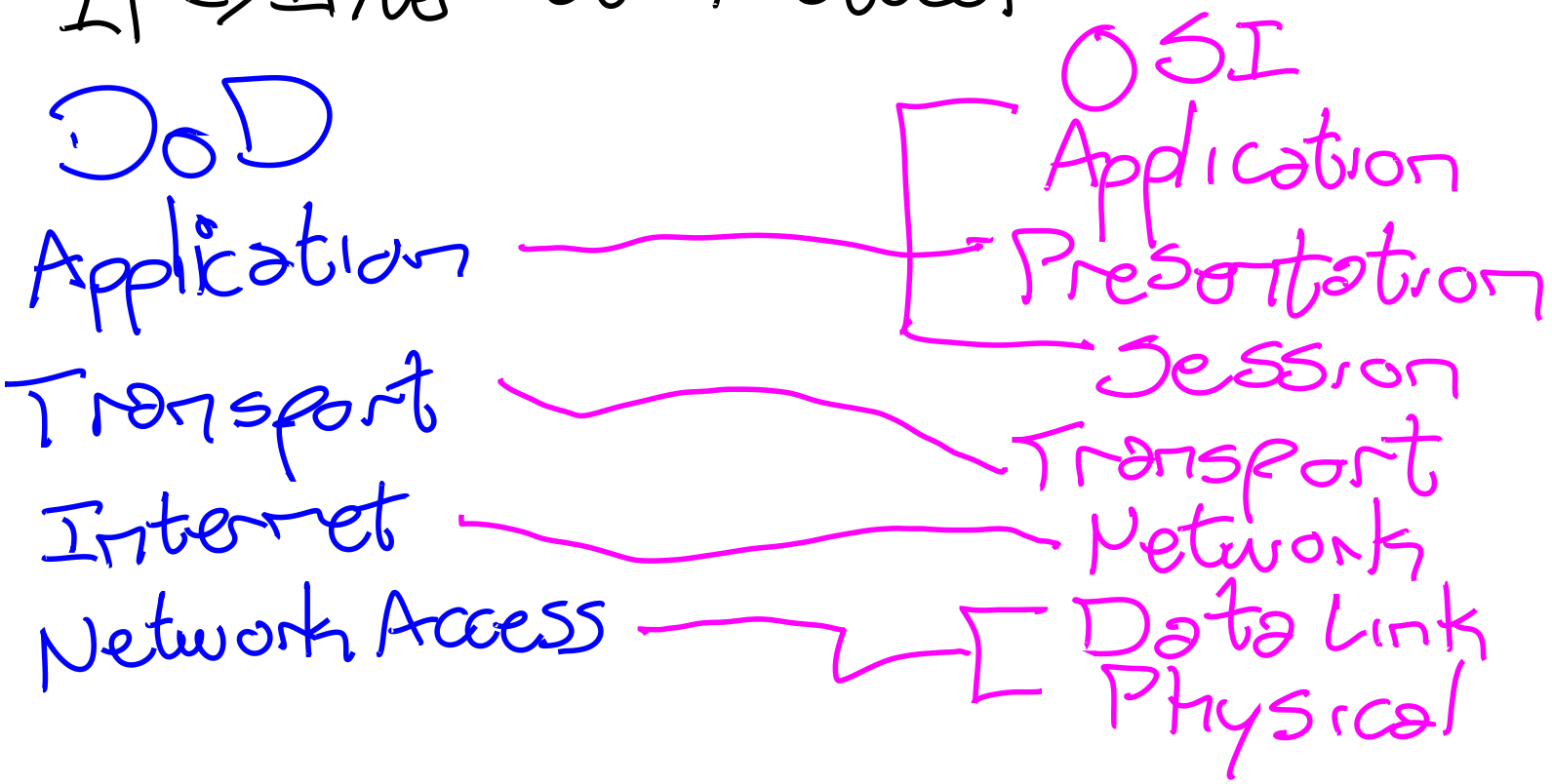


DoD Model

→ DARPA ⇒ TCP/IP

Department of Defense (DoD) model describes four layers: *application*, *transport*, *internet*, and *network access*.

TCP ⇒ Transmission Control Protocol
IP ⇒ Internet Protocol



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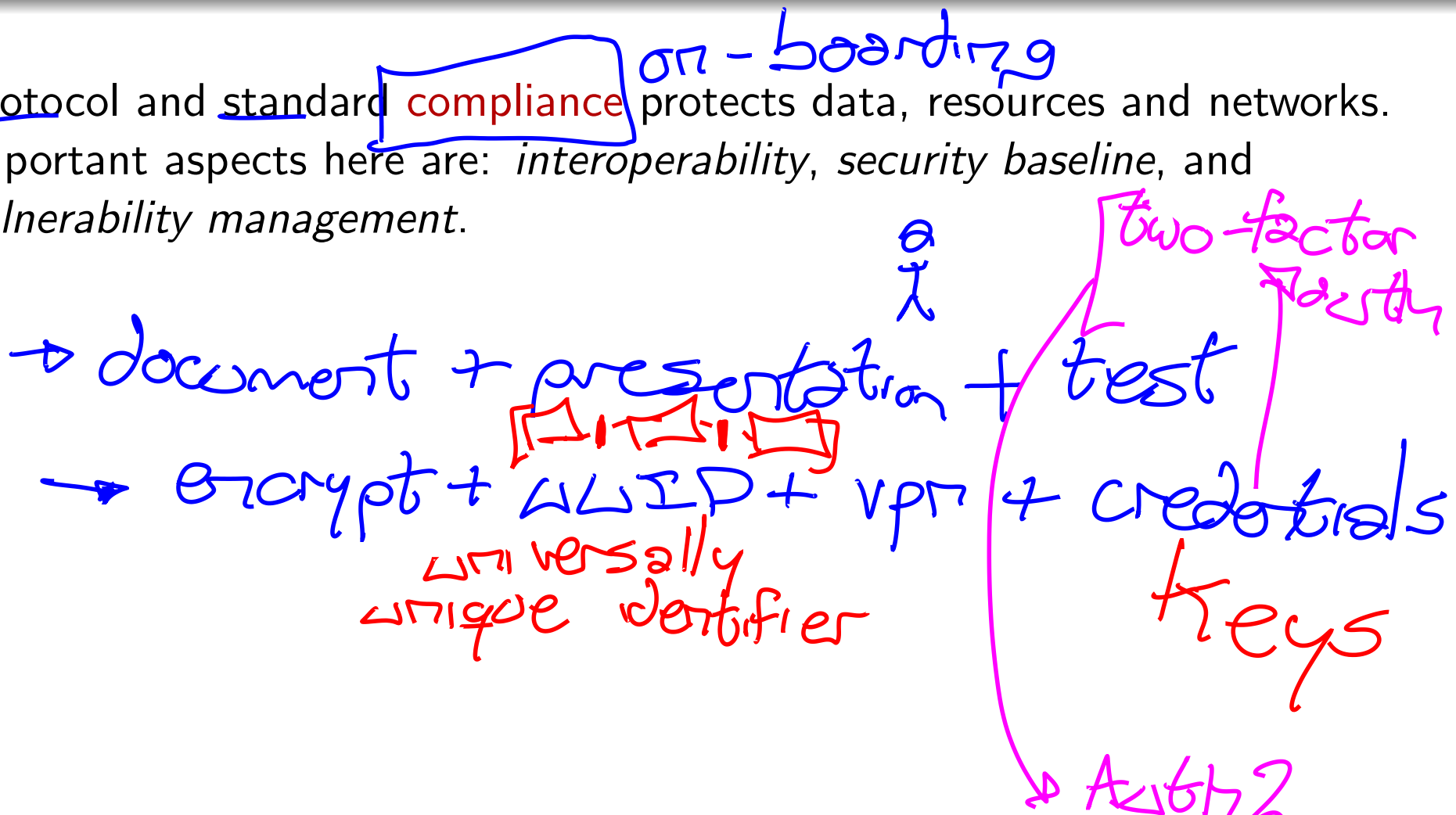
Networks Security

Protocol and standard compliance protects data, resources and networks. Important aspects here are: *interoperability*, *security baseline*, and *vulnerability management*.



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Thanks!

Questions?

Repo: *github.com/engandres/ud-public/courses/computer-networks*

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