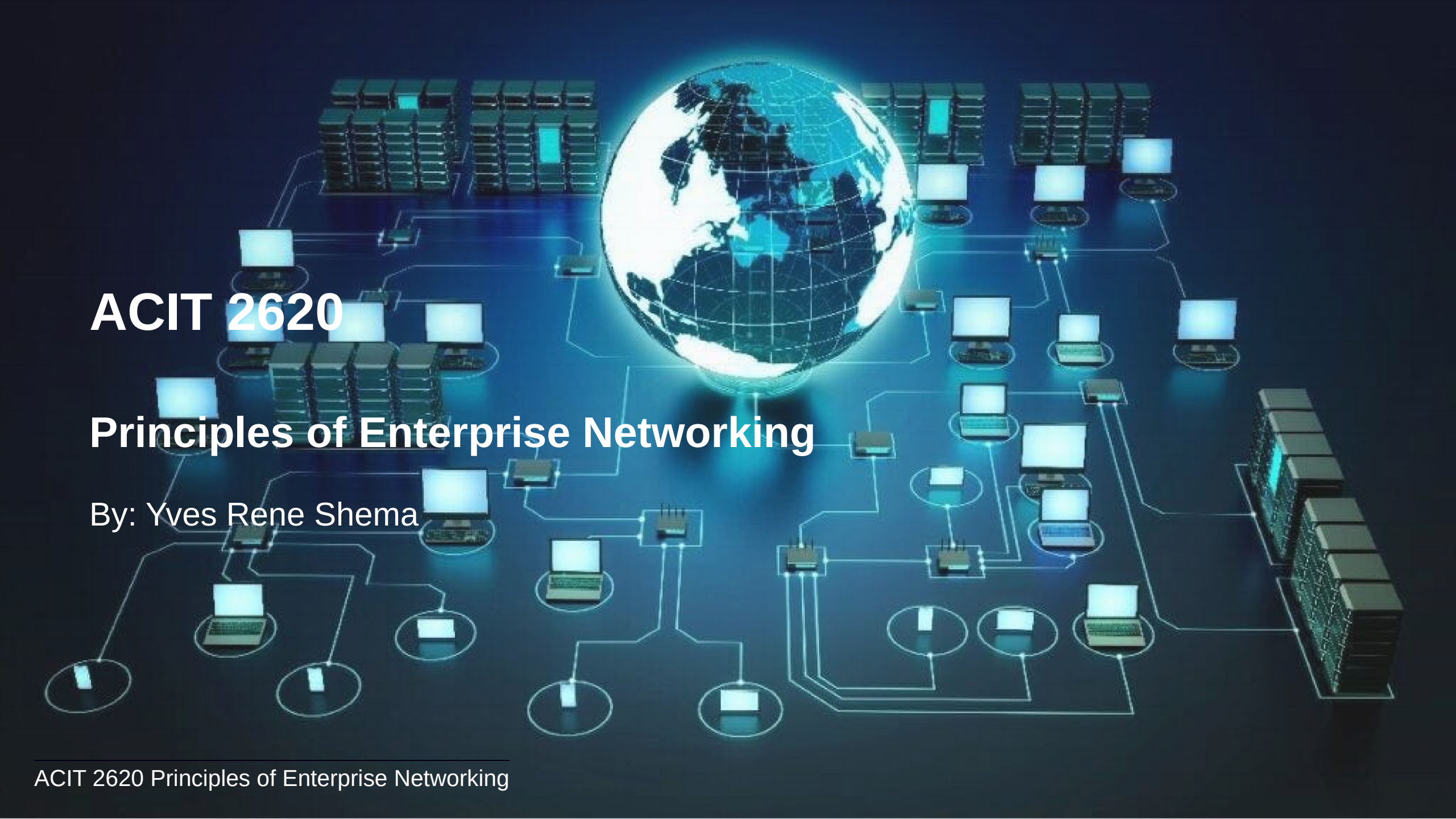

ACIT 2620

Principles of Enterprise Networking

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Objectives:

- Recap of OSI Model
- Survey of networking devices
- Overview of common network topologies
- Project setup

OSI Model Recap

(7) **Application**: domain specific messages
(6) **Presentation**: data formatting (e.g. encryption, compression, character encoding)
(5) **Session**: organizing of messages into "visits"
(4) **Transport**: multiplexing, segmentation, re-assembly
(3) **Network**: routing datagrams between networks, global addressing
(2) **Data-Link**: communication on shared medium
(1) **Physical**: signals across medium (bits)

Broadcast Domain vs Collision Domain

A broadcast domain is a group of nodes sharing the same transmission medium (i.e. LAN or simply `network`). When these nodes are not connected through a switch (or bridge), the network constitutes a single collision domain.

Network Devices

Define the function and uppermost OSI layer implemented by the following devices:

- Network Interface Controller/Card
- Hub
- Bridge
- Switch

- Router
- NAT Router
- Wireless Access Point (WAP)
- Firewall

Network Topologies

- Bus
- Ring
- Star
- Mesh
- Hybrid

Reading List

Read this before next class:

- Ethernet Fundamentals
- Ethernet Basics
- Optional:
  - VIM basics (or just type `vimtutor` in a linux terminal and follow along)
  - A `tcpdump` Tutorial with Examples