William Frade
07/14/2025

YTB - Authentication Protocols Every beginning.
- SAML
- Oauth - all about permissions.
- Open ID Connect - authentication
- Radius - remote authentication

Admin - identification
Authentication -
Authorization -
Accounting

Radius
TACACS+
LDAP
Kerberos
MS AD
SSO

Database

"credentials"
passwords
Tokens
certificates
GPS location
Biometrics

CIT Pub

MS AD = Microsoft Active Directory
MS AZURE/AD

VPN   Tunnel   Internal
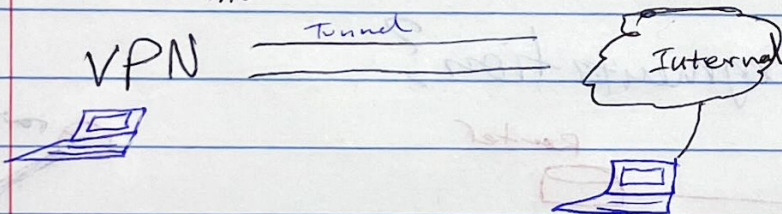
Federation { Principle
            Service provider
            Identity provider → SSO

Twitter
Instagram   resources "services"
Tick Tok
On Prem

- Protocols: SAML, Oauth, Open ID, Radius.
→ authorization
→ Authentication

YTB - What is SAML? A comprehensive
SSO - single sign on.

Willian Prado
07/14/2025
Enterprise Network
Architecture.

Professor messer

YTB Network Infrastructure Concepts - CompTiA Sect
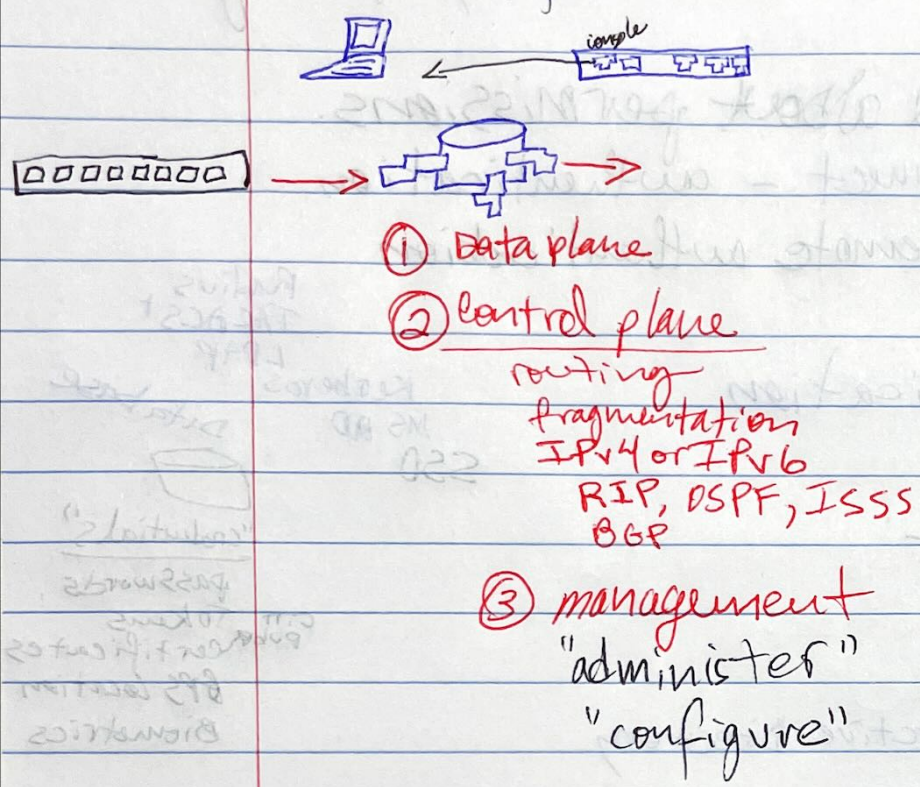
SDN = software define
network.

① Data plane
② Control plane
   routing
   fragmentation
   IPv4 or IPv6
   RIP, OSPF, ISSS
   BGP

③ management
   "administer"
   "configure"

YTB - Network Segmentation?

Router

router

VLAN
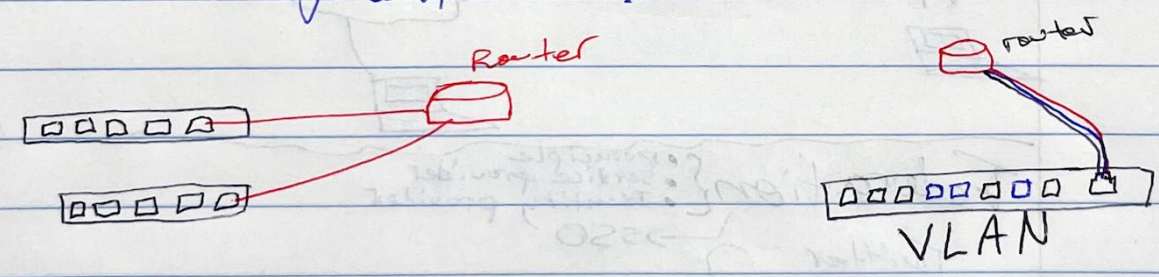
YTB - Understand security zones | Honeypots, Guest Network
NAT & More Explained

Internet

Guest
wifi   Switch

Internet

Internet

Internet

Guest wifi   Switch

wifi
connection
A/P A/P A/P A/P
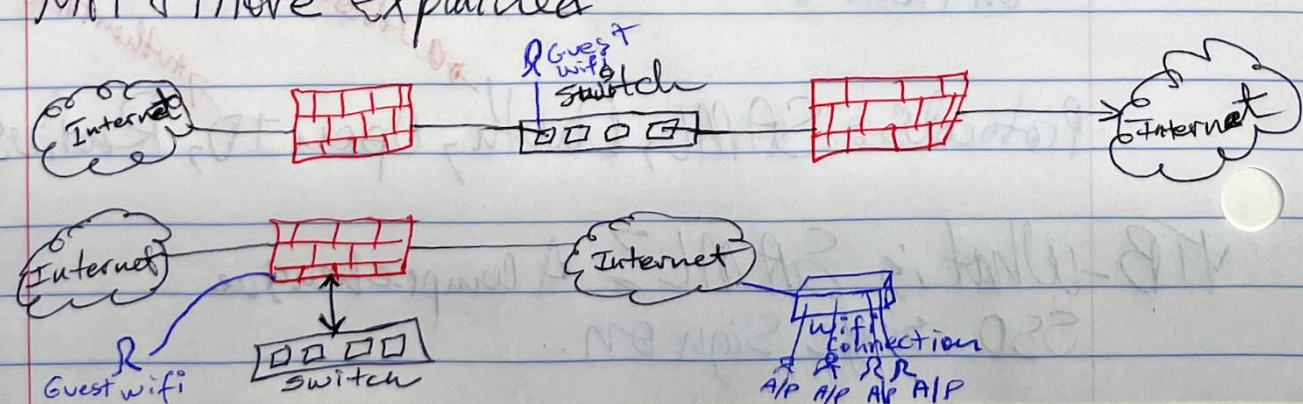
What are security Zone?

attack surface is all the points at which a threat actor could gain access to hosts + services.

SDN

Network segmentation

Security zone

Screened subnet
multi - Home subnet
      Host
wireless network
guest network
Honeypot
Ad-Hoc net
NAT

"EAP" → • passwords
        • certificates   ᴛᴛpub
        • Token

Prof. Musser.
   YTB Port seurity — CompTIA Security +

Air gapped -
Faraday bag
AUP - Acceptable Use Policy

Active control - require host configuration or software
passive Control - don't require hosts to be configured

SPAN - port mirror
TAP - Test Access Port - device attached to special port on switch.

Network Security Appliances
"Security Control"/"Counter measure"
Defense-in-depth
Agent based vs Agentless
TAP vs SPAN

Filter

"Filters"
Stateless   one packet
Stateful   multiple packets
Host vs network
          fire
Layer 4 < TCP
          UDP

Layer 7 < application
          Ex: HTTP/HTTPS
               Pop3/IMAP/SMTP
               DBASE → MySQL, Oracle, Ms SQL

special type
Layer 7 ~~Firewall~~ | Load Balancers
"Proxy-server" |
                                        | □ round-robin
App-specific | □ weight
- natting |
- filtering | Cluster
- caching | Active-Active
IDS, IPS | Active-passive
NIDS, NIPS | WAF - web Application Firewall
HIDS, HIPS |

NGFW tracks the state of traffic based on layer 4 thru 7.

UTM - many types of security. All in one security appliance.