Sun City Summerlin Computer Club Seminar

Personal Virtual Private Networks

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June 28, 2023

Where to Find the Seminar Materials

- **Sun City Summer Computer Club Website:**
  - **https://www.scscc.club/smnr**

- **Acrobat file of these slides:**
  - **https://www.scscc.club/smnr/VirtualPrivateNetworks.pdf**
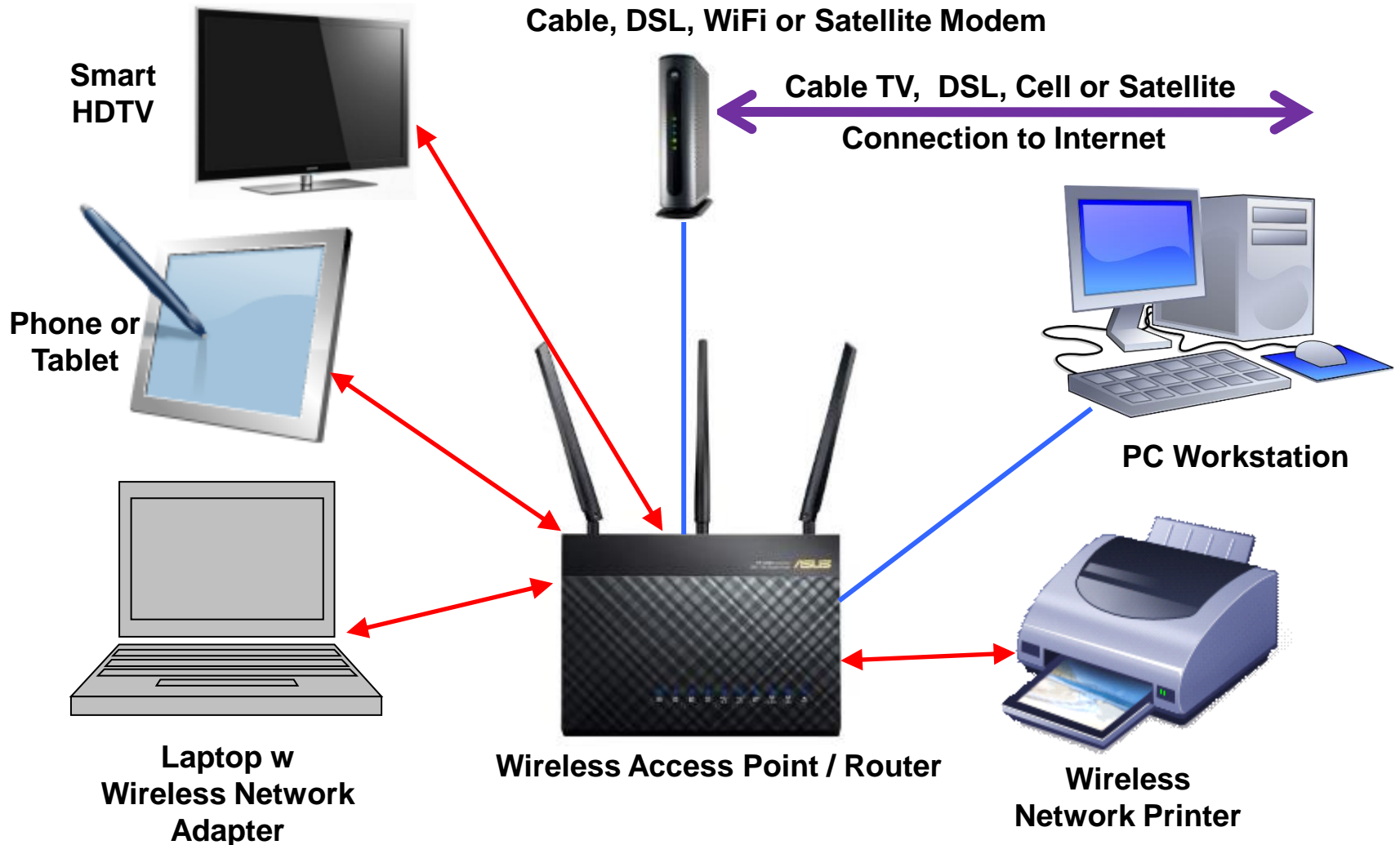
Seminar Agenda

- **What is a Personal Virtual Private Network**

- **Why Use One**

- **VPN Vendors**

- **Setting Up and Operating Your VPN**

- **Is a VPN Worth It?**

What Is a Personal Virtual Private Network

- https://nordvpn.com/what-is-a-vpn/
- https://us.norton.com/blog/privacy/what-is-a-vpn
- https://surfshark.com/learn/what-is-vpn

- A personal VPN creates a strongly encrypted link between your device and a VPN server. The VPN server then connects to your requested web server and passes data between your device and that web server.

- A personal VPN prevents tracking of your web activity.
    - The data traffic between your PC and the VPN server is encrypted.
    - Your ISP (e.g. Cox) can no longer see what websites you are connecting to.
    - Websites you connect to don't see YOUR IP address; they see the IP address of the VPN server.

- A personal VPN allows you to choose your virtual location.
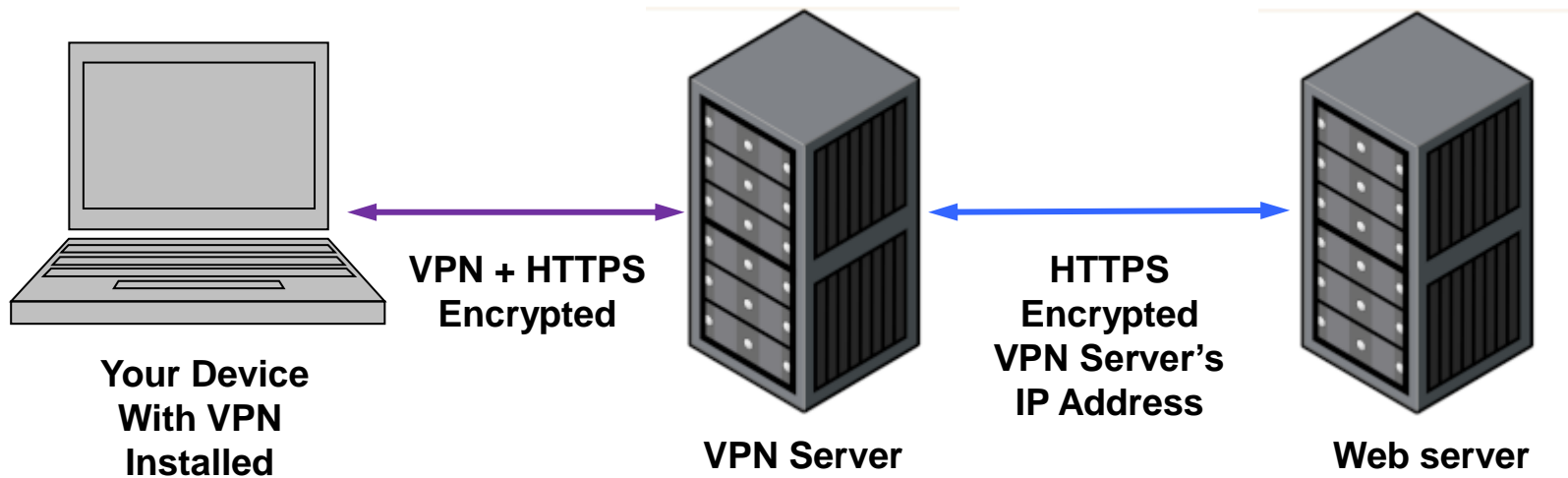   - VPN servers are located in many locations around the U.S. and internaltionally.

Classic Small Mixed Home Network

Smart HDTV

Cable, DSL, WiFi or Satellite Modem

Cable TV, DSL, Cell or Satellite Connection to Internet

Phone or Tablet

PC Workstation

Laptop w Wireless Network Adapter

Wireless Access Point / Router

Wireless Network Printer

Virtual Private Networks

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Why Use a Virtual Private Network?

- **Increased Privacy / Security**
  - All Internet data traffic is encrypted between your device and the VPN server.
  - Your ISP can't track where you are surfing; all requests go to the VPN server.

- **Anonymity**
  - Websites you surf to don't see YOUR IP address; they see the IP address of the VP server.

- **Change Virtual Location**
  - You can choose the location of the VPN server your traffic is routed through.
  - Sites you surf to see an IP address related to that location. This may allow access to content that would normally be blocked.

Personal VPN Configuration

VPN + HTTPS Encrypted

Your Device With VPN Installed

VPN Server

HTTPS Encrypted VPN Server's IP Address

Web server

Virtual Private Network Vendors

- **https://www.zdnet.com/article/best-travel-vpn/**

- **NordVPN**

- **SurfShark**

- **IPVanish**

- **ExtremeVPN**

- **Best to Avoid *Free* VPN Vendors**
  - **When it's free, YOU are the product!**
  - **May track and sell your activity.**
  - **Performance may be poor.**

Setting Up and Operating Your VPN

- **Demo with SurfShark**
  - **Download software: https://surfshark.com/**
  - **Run setup to install**
  - **Select VPN server and customize connection**
  - **Turn VPN on and surf**
  - **Turn VPN off and surf**
  - **Demonstrate Kill switch**

Is a VPN Worth It?

- **Cost isn't great, but it's an ongoing subscription.**
  - Surfshark costs $2.49 / month on a two-year basic plan (watch for sales).
  - Essentially $60 for two years.
  - Prices are higher for one-year and monthly plans.
  - Surfshark also has Surfshark One and Surfshark One+ plans with lots of added features. You may not need all of those.

- **The Internet has evolved to where almost all connections use HTTPS (secure sockets) encryption between your device and the web server you are connecting to.**
  - The VPN adds another layer of encryption over your HTTPS traffic.
  - This doesn't make your data more secure, but it does prevent your ISP and the web servers you connect to from tracking you.
  - However, if you connect to a website and log in, it will know who you are. In most cases that's what you want.

- **The extra encryption and the extra hops your data must make will reduce network performance.**
  - This won't be noticeable for most surfing, but it may impact streaming and large file transfers.