Topic 3 Discussion 2

What are the challenges in securing networks (internet, LANs, wireless)? Which network is most difficult to secure and why?

Hello Class,

One of the primary challenges in securing internet networks is the vast number of potential entry points for attackers. With millions of devices connected globally, vulnerabilities can arise from outdated software, misconfigured settings, and unpatched systems(Wilkins, 2020). Additionally, the dynamic nature of the internet makes it difficult to maintain consistent security measures across all devices.

For LANs, the challenges often stem from internal threats. Employees may inadvertently introduce risks through careless behavior, such as using weak passwords or connecting unauthorized devices(Fourrage, 2024). Moreover, physical security is crucial; if an attacker gains physical access to the network, they can exploit it easily.

Wireless networks face unique challenges due to their inherent lack of physical boundaries. Common threats include piggybacking, where unauthorized users access the network, and wardriving, where attackers search for unsecured networks. Outdated encryption protocols, such as WEP and even WPA2, can leave networks vulnerable to interception and eavesdropping(CISA, 2021).

Among these, wireless networks are often considered the most difficult to secure. The absence of a physical barrier allows attackers to exploit vulnerabilities from a distance, making it challenging to detect unauthorized access(Migrator, 2012). Additionally, the reliance on encryption protocols can be problematic if they are not regularly updated or if users fail to implement strong security measures

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