

least popular part of a targeted attack: lateral movement

living off the host attack: use legitimately available tools for malicious purposes

alternative: install malware

PowerShell

WMI (Windows Management Instrumentation)

- + no need for specific malware
- + difficult to detect

- speed

- cost

general purpose malware is very difficult to create for ICS networks

hence, living off the host is more common

fixing high-severity vulnerabilities is not better than fixing some (more) random vulnerabilities; an attacker only needs a few, of their choice

zero-day exploits are similar to attack weapons nowadays

zero-days have a lifetime of 19 days - 30 months

updates are not applied quickly

you cannot fix something if you do not know what to fix

nowadays, vulnerabilities are traded on a market

triple extortion → 1. no money → system and data lost

2. no money → leak all data

new! 3. no money from customer of victim → leak all data

drop in ransomware in 2022: geopolitics,

volatile cryptocurrency prices

double jeopardy: paying sanctioned country can lead to a fine

log4shell: remote code execution (RCE) is commonly used logging library

IoT malware

software supply chain attacks



cryptomining → mining coins using victim's hardware

Mitre att & ck enterprise matrix

APT 28

APT 29