

# Networking and Server Attacks

## Interception Attacks

- *Man-in-the-Middle* - Between two hosts
- *Man-in-the-Browser* - Between the browser and underlying computer, usually by Trojan-installed extension
- *Replay Attacks* - copies credentials or session token - *not* a MitM

## Poisoning Attacks

- *ARP Poisoning* - “Yep, I’m x:x:x:x! I promise!”, “you hear that guys, he’s x:x:x:x!”
- *DNS Poisoning* - “Yep, x.x.x.x is the ip of foo.com!”, “you hear that guys, x.x.x.x is foo.com!”
  - can be performed locally or at a higher echelon
- *Privilege escalation* - exploits vulnerabilities in a trusted process, or, hijacks control of a horizontal *other* user

## Server Attacks

### Denial of Service

overwhelms a server by saturating its resources, either by looping in the network, exceeding bandwidth, or depleting it’s hardware

- *DDoS* - performed by a botnet
- *Smurf attack* - spoofed echo request with target as **from**
- *DNS amplification* - pretend like the target is asking for DNS lookups; utilize public infrastructure through botnets
- *SYN flooding* - spoofed with bogus IP, asks target to sync with it - forever waiting for ACK

### Hijacking

- Session hijacking - stolen session token - via XSS, MITM, or guessing
- URL hijacking - aka “typo squatting” - also “bit squatting”
- Domain hijacking - attacker somehow changes DNS record
- Clickjacking - Zero-pixel element in HTML

### Overflow Attacks

- Buffer overflow - bleed out a buffer, and write an instruction into forbidden memory space
- Integer overflow - goes negative

### **Advertising Attacks**

- Malvertising - poisoned ads; using ads to distribute malware
- Ad Fraud - forges / spoofs “clicks” to steal revenue

### **Exploiting Browser Vulnerabilities**

- Extensions, plugins, add-ons
- Extensions affect a single site, FIXME check graph

### **Zero-Day Attack**

nobody saw it coming, because nobody knew the vulnerability existed

### **Web Server Application Attacks**

#### **Cross-Site Attacks**

- Cross-Site Scripting (XSS) - attacker’s facebook bio is a script, and victim looks at their profile
  - *Non-persistent XSS* - embeds a script in the URL, or something similar
  - *Persistent XSS* - stored on a website (i.e. facebook post), viewed / executed by many
- Cross-Site Request Forgery (XSRF) - Clicks on threat agent’s web page (with CORS enabled) and obtains their previous session tokens

#### **Injection Attacks**

- SQL Injection - unsanitized input that’s used in a SQL query can have its command overridden
- LDAP Injection - gets phone numbers
- XML Injection