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## From p0f to JA4+: Network Fingerprinting and Reconnaissance

*Tuesday 10 June 2025 17:00 (45 minutes)*

As scanning and reconnaissance grows more diverse - from public platforms like Shodan and Censys to hidden probing by botnets and bulletproof hosting services-security teams need better ways to understand who is on the other side of their network connections.

This talk will show how network fingerprinting has developed over time, starting with tools like **p0f** and moving up to more advanced methods like **JA4**, **JA4+**, and **MuonFP**. We'll discuss how these modern fingerprints can help analysts recognize the tools and infrastructure used by attackers—whether they are fast scanners, basic banner grabbers, or connections routed through VPNs and jump servers.

You'll learn how to use these fingerprints to strengthen your defenses, protect critical infrastructure, and reduce your visibility to public scanners. We will also explain how to fit fingerprinting into security team workflows, noting both what it can and cannot do.

Attendees will leave with a practical understanding of modern fingerprinting techniques and a few examples they can apply in their daily work.

### Length

45 minutes

### Optional: Speaker / convener biography

Vlad is the co-founder and cybersecurity expert at ELLIO and President of the Anti-Malware Testing Standards Organization (AMTSO).

A true cybersecurity enthusiast, Vlad's passionate about network security, IoT, and cyber deception. Before ELLIO, he founded and led the Avast IoT Lab (now Gen Digital), developing security features and researching IoT threats. He has spoken at many conferences, including Web Summit and South by Southwest (SXSW), where he demonstrated IoT vulnerabilities

**Primary author:** ILIUSHIN, Vlad (ELLIO)

**Presenter:** ILIUSHIN, Vlad (ELLIO)

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