Network Traffic Security Analysis Report

Executive Summary

1. Executive Summary A comprehensive analysis of network traffic revealed multiple port scanning activities originating from `192.168.100.95` targeting `192.168.100.99`. The scans include: - TCP-based stealth scans (SYN, XMAS, NULL, FIN) - UDP scan (short-length probes)

No actual malicious payloads (TCP/UDP/ICMP/ARP) were observed, but the activity indicates reconnaissance for potential vulnerabilities. Immediate action is required to mitigate further probing.

## 2. Risk Assessment		
SYN/XMAS/NULL/FIN Scans	Medium (5.3)	Stealthy TCP scans to identify open ports and OS fingerprinting.
UDP Scan	Low (3.1)	Probing for UDP services (e.g., DNS, DHCP) with minimal packet lengt

Key Risk: Reconnaissance precedes exploitation. The attacker (`192.168.100.95`) is likely mapping network defenses.

3. Threat Observations ### Scanning Techniques Detected 1. SYN Scan (Packet #199) - Window size ≤1024 suggests evasion attempts (e.g., bypassing IDS/IPS). 2. TCP Connect Scan (Packet #201) - Window size >1024 indicates a less stealthy but faster scan. 3. XMAS/NULL/FIN Scans (Packets #203–207) - Abnormal TCP flag combinations to identify unfiltered ports. 4. UDP Scan - Probing with packets ≤8 bytes (typical for service discovery).

Traffic Patterns - Source IP: `192.168.100.95` (internal host, suggesting compromised device or insider threat). - Target IP: `192.168.100.99` (internal server). - Timing: All scans occurred within 200ms, indicating automated tools (e.g., Nmap).

4. Recommendations ### Immediate Actions 1. Isolate the Source Host - Quarantine `192.168.100.95` for forensic analysis (check for malware/unauthorized tools). 2. Enforce Network Segmentation - Restrict internal host communication via VLANs/firewall rules (least privilege). 3. Update IDS/IPS Rules - Add signatures for stealth scans (e.g., `alert tcp any any -> any any (flags: S; window: <=1024; msg:"SYN Scan";)`).

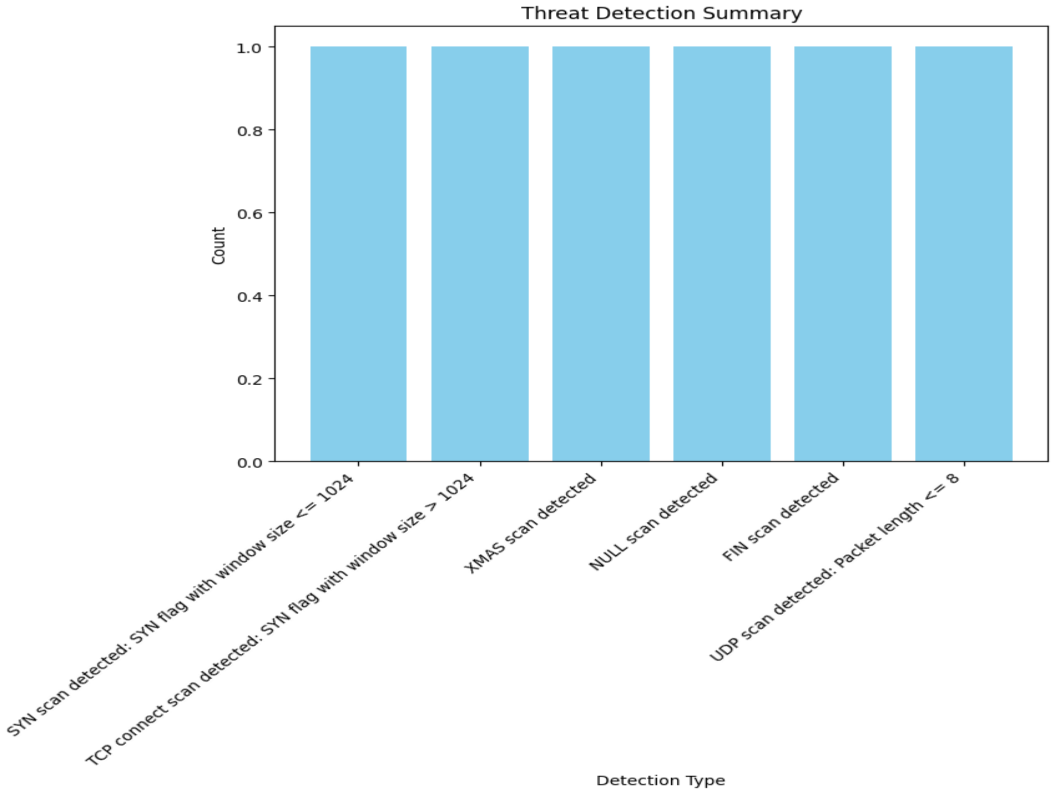
Long-Term Mitigations - Enable TCP Stack Hardening (e.g., SYN cookies, drop NULL/XMAS packets). - Conduct a Penetration Test to identify other vulnerable hosts. - Monitor for Lateral Movement (e.g., SMB/RDP connections from `192.168.100.95`).

Evidence Preservation - Retain full packet captures (PCAPs) of scans for incident response.

Report End

Key Notes for Stakeholders - The absence of attack packets suggests early-stage reconnaissance. - Internal scans imply a potential insider threat or lateral movement. - Recommendations align with NIST SP 800-61 (Incident Handling Guide).

Threat Detection Summary



Detection Type	Count
SYN scan detected: SYN flag with window size <= 1024	1
TCP connect scan detected: SYN flag with window size > 1024	1
XMAS scan detected	1
NULL scan detected	1
FIN scan detected	1
UDP scan detected: Packet length <= 8	1

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