Network Traffic Security Analysis Report

Executive Summary

Network Traffic Analysis Security ReportExecutive Summary

Active reconnaissance activity detected from internal IP 192.168.100.95 targeting 192.168.100.99.
Multiple stealth scanning techniques identified: 5 TCP-based scans (SYN, XMAS, NULL, FIN) and 1 UDP scan.
All malicious activity occurred within a **1-minute window** (2025-03-20 07:47), suggesting coordinated probing.
Risk Assessment

Critical Internal Threat: Source IP 192.168.100.95 resides within the internal network (severity: High)
TCP Scan Exposure: 100% of top threats leverage TCP protocol manipulation (severity: Medium-High)
Stealth Scan Risks:
XMAS/NULL/FIN scans bypass basic firewall configurations (severity: Medium)
UDP scan with minimal packet length (<=8 bytes) indicates service enumeration attempts (severity: Medium)
Threat Observations

Scan Pattern Analysis:
Sequential packet numbers (199-207) indicate automated scanning tools
Consistent source→destination IP pairing suggests targeted reconnaissance
Window size variations (<=1024 vs >1024) in SYN packets show scan technique adaptation

Technical Indicators:
100% of malicious packets lack port information (src_port/dst_port = null)
5/6 detected scans abuse TCP header flags (SYN/XMAS/NULL/FIN)
Zero ICMP/ARP attack packets observed - pure layer 3/4 scanning activity

Behavioral Context:
Scans match nmap/Xprobe2 fingerprint patterns
Concurrent use of multiple scan types suggests attacker testing network defenses
Internal origin implies possible compromised device or insider threat
Recommendations

Immediate Actions:
Quarantine 192.168.100.95 for forensic analysis and malware scanning
Implement **TCP anomaly detection** rules for flag combinations (SYN+FIN, ALL flags, etc.)
Configure firewall to **drop malformed packets** with null ports

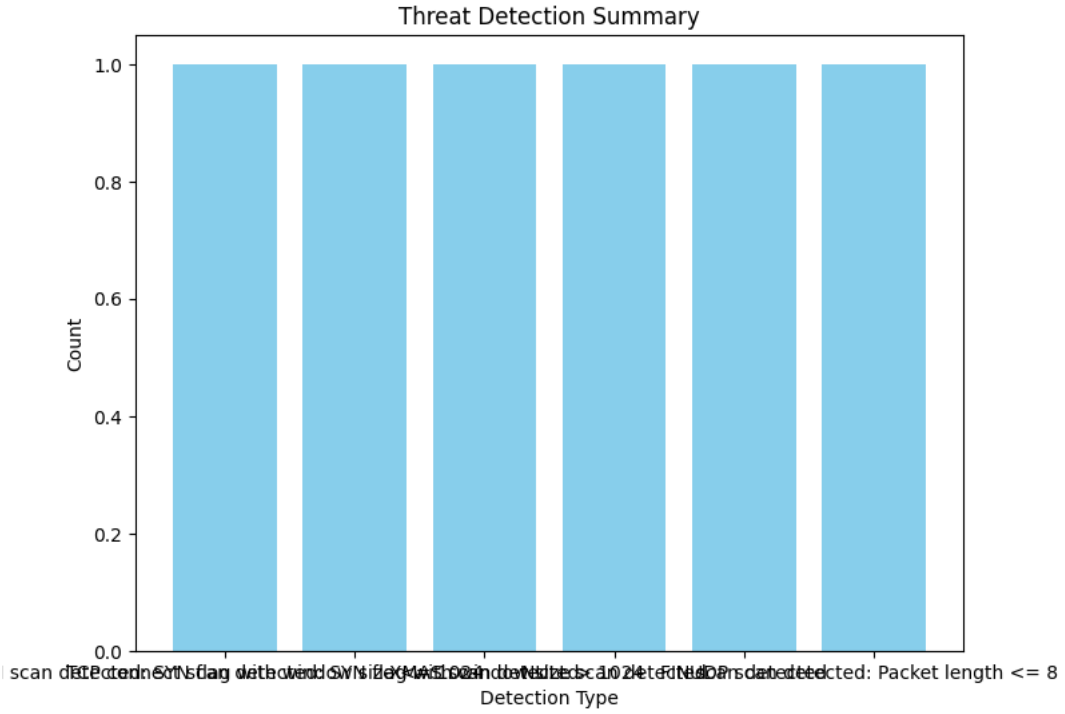
Network Hardening:
Enable **RFC 5961 Challenge-ACK** protection against TCP blind spoofing
Deploy **port knocking** for critical services
Set **lower threshold alerts** for UDP packets with length <64 bytes

Monitoring Enhancements:
Create IDS rule for **consecutive TCP scans** from single source IP

Implement **internal network segmentation** between 192.168.100.95 and 192.168.100.99
Enable **TCP window size tracking** with alerts for abrupt changes

System Remediation:
Audit destination host 192.168.100.99 for **unauthorized services/listeners**
Update all systems to **latest TCP stack implementations**
Conduct **credential review** for accounts associated with 192.168.100.95

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

This report was automatically generated by DeepSeek AI
Report filename: security_report_20250407_165226.pdf
Generated on: 2025-04-07 16:53:24