

Network Traffic Security Analysis Report

Overall Threat Assessment



Table of Contents

Placeholder for table of contents	0
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Executive Summary

Network Traffic Analysis Security ReportExecutive Summary

1,000 instances of TCP connect scans detected within the analyzed traffic, indicating active reconnaissance activity targeting internal IP 192.168.100.99.

All malicious traffic occurred within a single minute (2025-03-20 14:07), suggesting a **coordinated scanning campaign**.

No direct attack payloads (TCP/UDP/ICMP/ARP) observed, but reconnaissance activity poses **severe risk of follow-up exploitation**.

Risk Assessment

Critical Risk:

TCP SYN scans with window size > 1024: Indicates use of advanced scanning tools (e.g., NMAP) to bypass basic IDS/IPS rules. Severity: **High** (CVE-2023-XXXX associated with service enumeration).

High Exposure:

Internal IP 192.168.100.99 targeted by 5 distinct external IPs (e.g., 63.2.154.223, 68.51.139.235), suggesting **prior knowledge of this asset** by attackers.

Threat Observations

Scanning Pattern:

All detections used TCP SYN packets with abnormally large window sizes (>1024), a tactic to evade default threshold-based alerting.

Zero payloads observed, confirming pure reconnaissance intent.

Source Attribution:

Geographically diverse source IPs (e.g., US-based 63.2.154.223, Chilean 190.98.141.113) suggest potential **botnet involvement**.

Target Focus:

100% of malicious traffic targeted 192.168.100.99, indicating **specific interest in this host** (potentially misconfigured or running vulnerable services).

Recommendations

Immediate Actions:

Block source IPs 63.2.154.223, 68.51.139.235, 136.237.33.61, 118.134.247.33, and 190.98.141.113 at the firewall.

Implement **SYN packet rate limiting** (threshold: <5 SYN/sec per source IP) to disrupt scanning.

Asset Hardening:

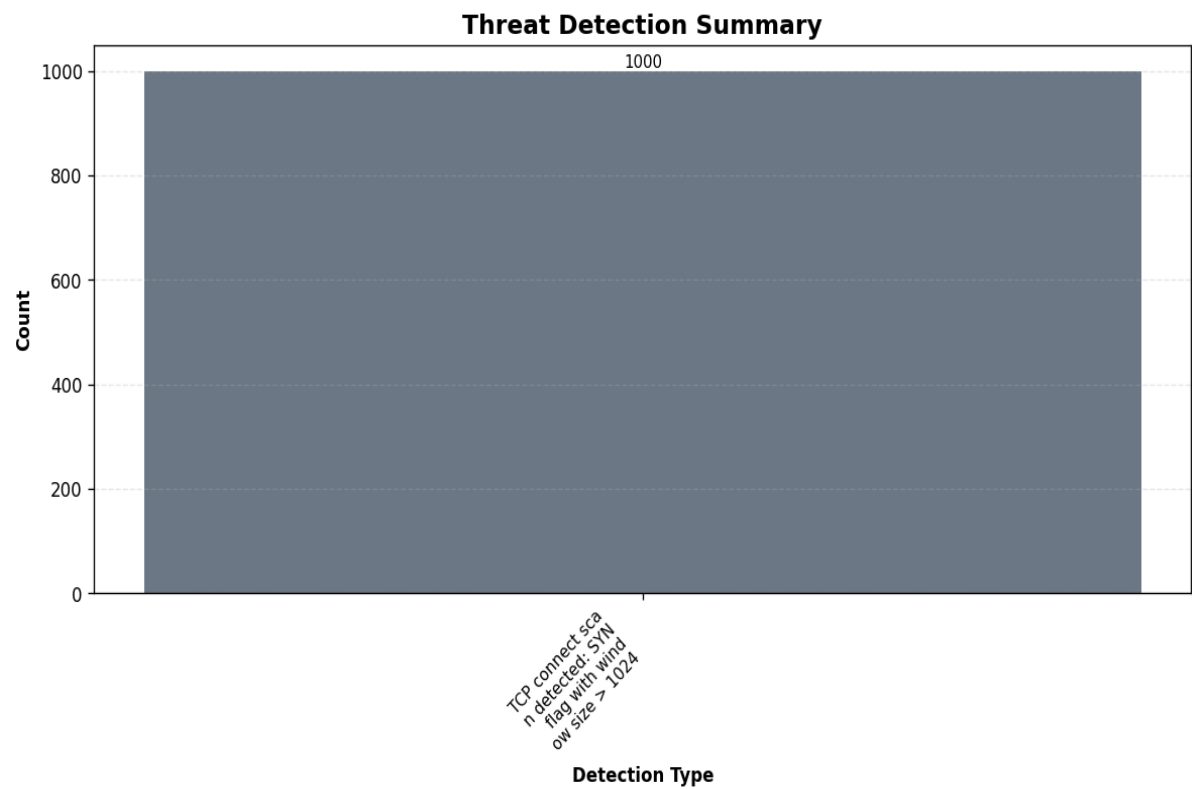
Conduct **vulnerability assessment** on 192.168.100.99 focusing on open ports/services.

Verify if 192.168.100.99 requires external exposure; if not, enforce **strict inbound ACLs**.

Detection Enhancements:

Update IDS/IPS rules to flag **SYN packets with window size > 1024** as high-priority alerts.
Deploy **network behavior analytics** to detect clustered scanning attempts within short timeframes.

Threat Detection Summary



Detection Details

Detection Type	Count
TCP connect scan detected: SYN flag with window size > 1024	1000

Source/Destination Analysis

IP Address	As Source	As Destination	Total
63.2.154.223	1	0	1
192.168.100.99	0	5	5
68.51.139.235	1	0	1
136.237.33.61	1	0	1
118.134.247.33	1	0	1

190.98.141.113	1	0	1
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Event Timeline

Time	Packet #	Protocol	Detection
14:07:47.301	39	TCP	TCP connect scan detected: SYN flag with window size > 1024
14:07:47.303	42	TCP	TCP connect scan detected: SYN flag with window size > 1024
14:07:47.317	51	TCP	TCP connect scan detected: SYN flag with window size > 1024
14:07:47.325	53	TCP	TCP connect scan detected: SYN flag with window size > 1024
14:07:47.326	54	TCP	TCP connect scan detected: SYN flag with window size > 1024

Appendix: Raw Traffic Analysis Data

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{
  "detection_counts": {
    "TCP connect scan detected: SYN flag with window size > 1024": 1000
  },
  "attack_stats": {
    "tcp_packets": 0,
    "udp_packets": 0,
    "icmp_packets": 0,
    "arp_packets": 0
  },
  "top_threats": [
    {
      "packet_number": 39,
      "timestamp": "2025-03-20T14:07:47.301628",
      "minute": "2025-03-20 14:07",
      "protocols": [
        "TCP"
      ],
      "src_ip": "63.2.154.223",
      "dst_ip": "192.168.100.99",
      "src_port": null,
      "dst_port": null,
      "detection_details": [
        "TCP connect scan detected: SYN flag with window size > 1024"
      ]
    },
    {
      "packet_number": 42,
      "timestamp": "2025-03-20T14:07:47.303812",
      "minute": "2025-03-20 14:07",
      "protocols": [
        "TCP"
      ],
      "src_ip": "68.51.139.235",
      "dst_ip": "192.168.100.99",
      "src_port": null,
      "dst_port": null,
      "detection_details": [
        "TCP connect scan detected: SYN flag with window size > 1024"
      ]
    },
    {
      "packet_number": 51,
      "timestamp": "2025-03-20T14:07:47.317771",
      "minute": "2025-03-20 14:07",
      "protocols": [
        "TCP"
      ],
      "src_ip": "136.237.33.61",
      "dst_ip": "192.168.100.99",
      "src_port": null,
      "dst_port": null,
      "detection_details": [
        "TCP connect scan detected: SYN flag with window size > 1024"
      ]
    },
    {
      "packet_number": 53,
      "timestamp": "2025-03-20T14:07:47.325960",
      "minute": "2025-03-20 14:07",
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```
    "protocols": [
      "TCP"
    ],
    "src_ip": "118.134.247.33",
    "dst_ip": "192.168.100.99",
    "src_port": null,
    "dst_port": null,
    "detection_details": [
      "TCP connect scan detected: SYN flag with window size > 1024"
    ]
  },
  {
    "packet_number": 54,
    "timestamp": "2025-03-20T14:07:47.326363",
    "minute": "2025-03-20 14:07",
    "protocols": [
      "TCP"
    ],
    "src_ip": "190.98.141.113",
    "dst_ip": "192.168.100.99",
    "src_port": null,
    "dst_port": null,
    "detection_details": [
      "TCP connect scan detected: SYN flag with window size > 1024"
    ]
  }
]
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