

# Network Traffic Security Analysis Report

## Overall Threat Assessment



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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.

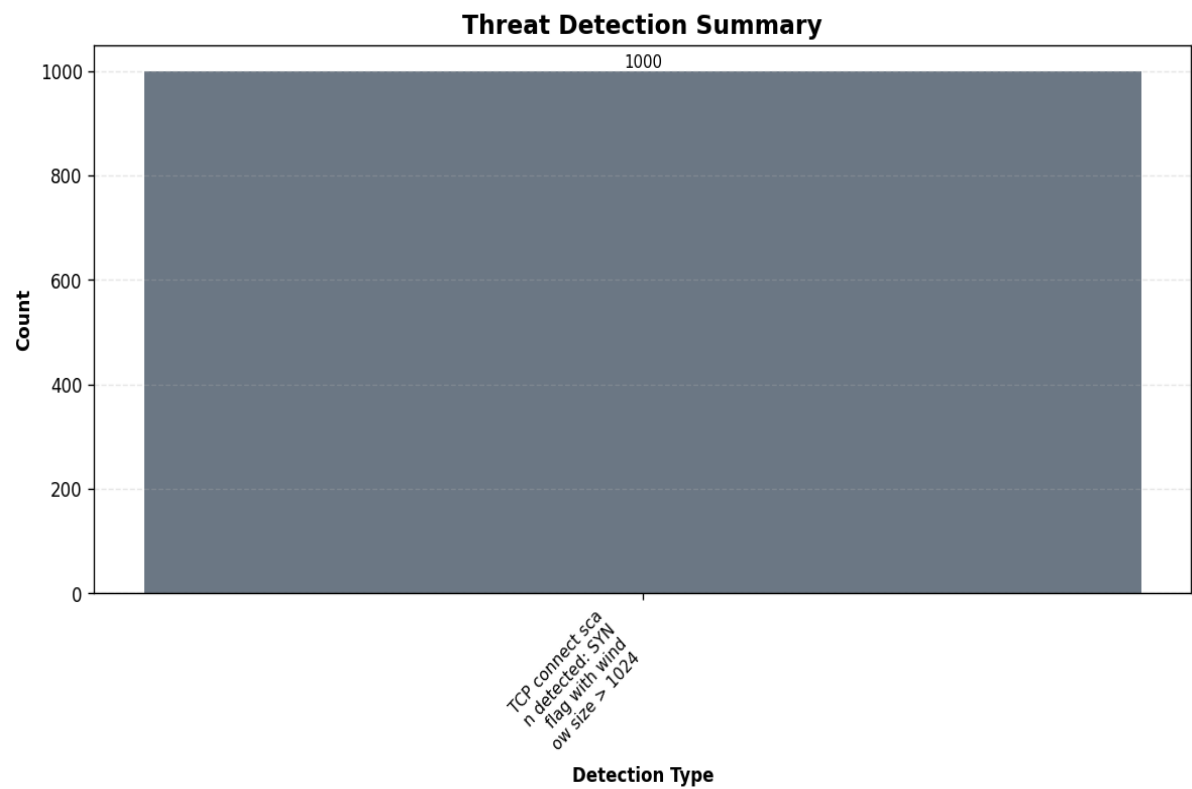
Verify if 192.168.100.99 requires external exposure; if not, enforce **strict inbound ACLs**.

### 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"
      ]
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    {
      "packet_number": 53,
      "timestamp": "2025-03-20T14:07:47.325960",
      "minute": "2025-03-20 14:07",
```

```
    "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"
    ]
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  {
    "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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