

```
13:24:32.192571 IP 192.51.100.15.52444 > 203.0.113.2.domain: 35084+ A?
yummyrecipesforme.com. (24)
13:24:36.098564 IP 203.0.113.2 > 192.51.100.15: ICMP 203.0.113.2
udp port 53 unreachable length 254

13:26:32.192571 IP 192.51.100.15.52444 > 203.0.113.2.domain: 35084+ A?
yummyrecipesforme.com. (24)
13:27:15.934126 IP 203.0.113.2 > 192.51.100.15: ICMP 203.0.113.2
udp port 53 unreachable length 320

13:28:32.192571 IP 192.51.100.15.52444 > 203.0.113.2.domain: 35084+ A?
yummyrecipesforme.com. (24)
13:28:50.022967 IP 203.0.113.2 > 192.51.100.15: ICMP 203.0.113.2
udp port 53 unreachable length 150
```

Cybersecurity Incident Report – DNS Server Unreachability Analysis

1. Introduction

This report investigates a cybersecurity incident where users were unable to access a website due to DNS resolution failure. The analysis uses network traffic logs to identify the root cause and propose a resolution.

2. Problem Identification

2.1 Summary of the Incident

Users reported that they were unable to access the website ‘yummyrecipesforme.com.’ Network analysis showed a ‘destination port unreachable’ error, indicating a DNS resolution failure.

2.2 Network Traffic Analysis

Protocols involved in the issue:

- UDP – Used for sending DNS queries on port 53.
- ICMP – Returned error messages indicating UDP port 53 was unreachable.

2.3 Initial Findings

The network log analysis using tcpdump showed that all DNS requests resulted in ICMP error messages indicating that UDP port 53 was unreachable. This suggests a DNS server misconfiguration, firewall blocking, or server downtime.

3. Incident Analysis

3.1 Timeline of the Incident

The issue was first reported when users were unable to access the website. Troubleshooting began with network analysis using tcpdump.

3.2 Current Status of the Issue

DNS resolution remains unsuccessful due to persistent ICMP error messages.

3.3 Investigation Details

Steps taken to investigate the issue:

- Used tcpdump to capture network traffic logs.
- Identified repeated ICMP 'port unreachable' messages.
- Verified DNS server (203.0.113.2) status.

3.4 Root Cause Analysis

The most likely cause of the issue is that the DNS server is either down, misconfigured, or blocked by a firewall. The error message 'UDP port 53 unreachable' suggests that DNS requests are not being processed correctly.

4. Resolution and Implementation Plan

4.1 Steps to Resolve the Issue

To resolve the issue, the following actions should be taken:

- Verify if the DNS service is running on the server.
- Restart the DNS service if necessary.
- Ensure that firewall rules allow UDP traffic on port 53.

4.2 Preventive Measures

To prevent similar incidents in the future, we recommend:

- Implementing continuous monitoring of DNS server availability.
- Configuring redundant DNS servers.

5. Conclusion & Lessons Learned

This incident highlights the importance of monitoring DNS servers and ensuring proper firewall configurations to prevent disruptions in network communication.