

Cybersecurity Incident Report:

Network Traffic Analysis

Part 1: Provide a summary of the problem found in the DNS and ICMP traffic log.

The UDP protocol was used to contact the DNS server to retrieve the IP address for the domain name of yummyrecipesforme.com. The ICMP protocol was used to respond with an error message, indicating issues contacting the DNS server. The UDP message going from your browser to the DNS server is shown in the first two lines of every log event.

This is based on the results of the network analysis, which show that the ICMP echo reply returned the error message: udp port 53 is unreachable

The port noted in the error message is used for: Port 53 is primarily used by DNS

The most likely issue is: DNS server not responding

Part 2: Explain your analysis of the data and provide at least one cause of the incident.

Time incident occurred: Today at 13h24

Explain how the IT team became aware of the incident: By customers of clients not being able to access the company website

Explain the actions taken by the IT department to investigate the incident: The team used tcpdump to attempt to load the webpage

Note key findings of the IT department's investigation (i.e., details related to the port affected, DNS server, etc.): The team found out that when you send UDP packets to the DNS server, you receive ICMP packets containing the error message "udp port 53 unreachable."

Note a likely cause of the incident: DoS attack, firewall misconfiguration or UDP flood attack

Scenario

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Review the scenario below. Then complete the step-by-step instructions.

You are a cybersecurity analyst working at a company that specializes in providing IT services for clients. Several customers of clients reported that they were not able to access the client company website www.yummyrecipesforme.com, and saw the error “destination port unreachable” after waiting for the page to load.

You are tasked with analyzing the situation and determining which network protocol was affected during this incident. To start, you attempt to visit the website and you also receive the error “destination port unreachable.” To troubleshoot the issue, you load your network analyzer tool, tcpdump, and attempt to load the webpage again. To load the webpage, your browser sends a query to a DNS server via the UDP protocol to retrieve the IP address for the website's domain name; this is part of the DNS protocol. Your browser then uses this IP address as the destination IP for sending an HTTPS request to the web server to display the webpage. The analyzer shows that when you send UDP packets to the DNS server, you receive ICMP packets containing the error message: “udp port 53 unreachable.”

```
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
```