Phishing Email Analysis Report

Analysis Of A Suspicious Email Conducted In An Isolated Virtual Environment

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1. Executive Summary

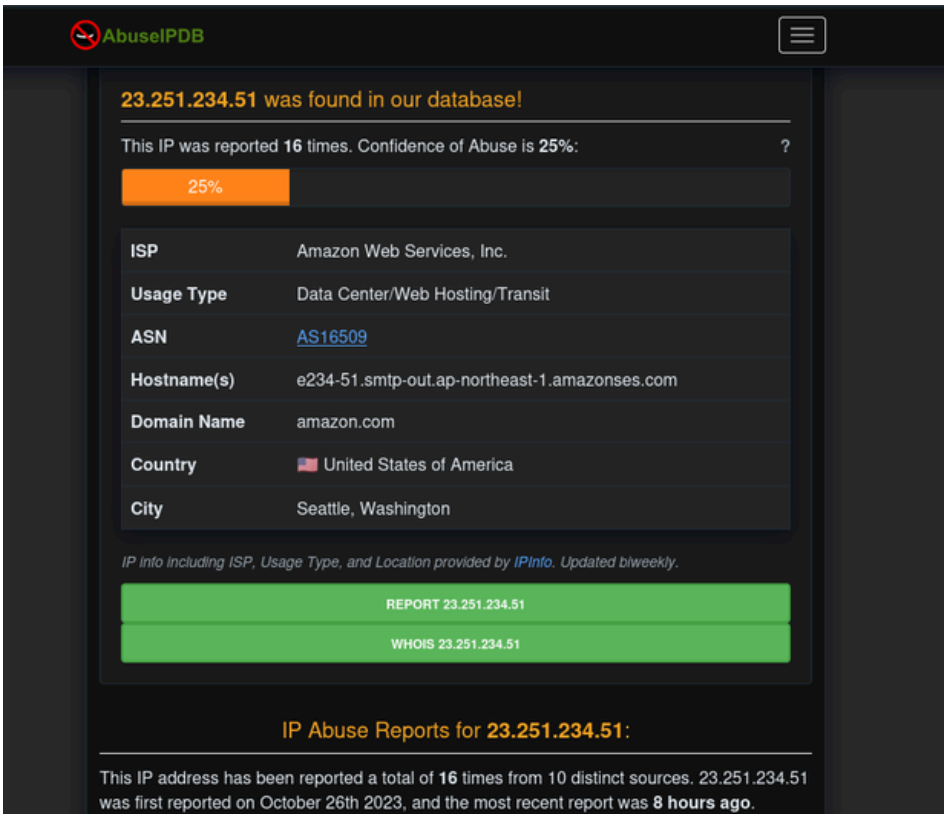
A thorough analysis of a suspicious email conducted in an isolated virtual environment with multiple analysis techniques revealed a sophisticated phishing attempt targeting sensitive information. The email disguised as a transaction alert, to deceive user into clicking a malicious link embedded in “cancel transaction” button. Investigation, including the header inspection, sender IP address and the URL reputation analysis confirmed the suspicious email as a phishing email designed to exfiltrate sensitive information.

2. Email Metadata Analysis

2.1 Sender Information

- **Sender IP Address**:23.251.234.51
- **Sending Server**: SJ1PR19MB6332.namprd19.prod.outlook.com (2603:10b6:a03:455::6)
- **Return-Path**: 0106018a71901afd-bbc67141-d1e8-42bc-89a7-4877f9564d7d-000000@apnortheast-1.amazonses.com

- **IP Reputation Check (AbuseIPDB)**: The sender IP address was identified in the AbuseIPDB database, with multiple report including a recent report just 8 hours ago, indicating the ongoing malicious activity.



2.2 Email Authentication Results

- **SPF (Sender Policy Framework)**: PASS
  - The SPF record validated successfully, suggesting that the sending server is authorized to send mail on behalf of the domain. However, SPF alone is not a reliable indicator of legitimacy.
- **DKIM (DomainKeys Identified Mail)**: The DKIM signature is validly structured and shows the email was signed by Amazon SES using RSA-SHA256. However this does not also validate it legitimacy.
- **DMARC (Domain-based Message Authentication, Reporting, and Conformance)**: NONE
  - The domain lacks a DMARC policy, increasing the likelihood of unauthorized use and spoofing.
- **Return-Path**: Different from “FROM” address, indicating spoofing attempt.

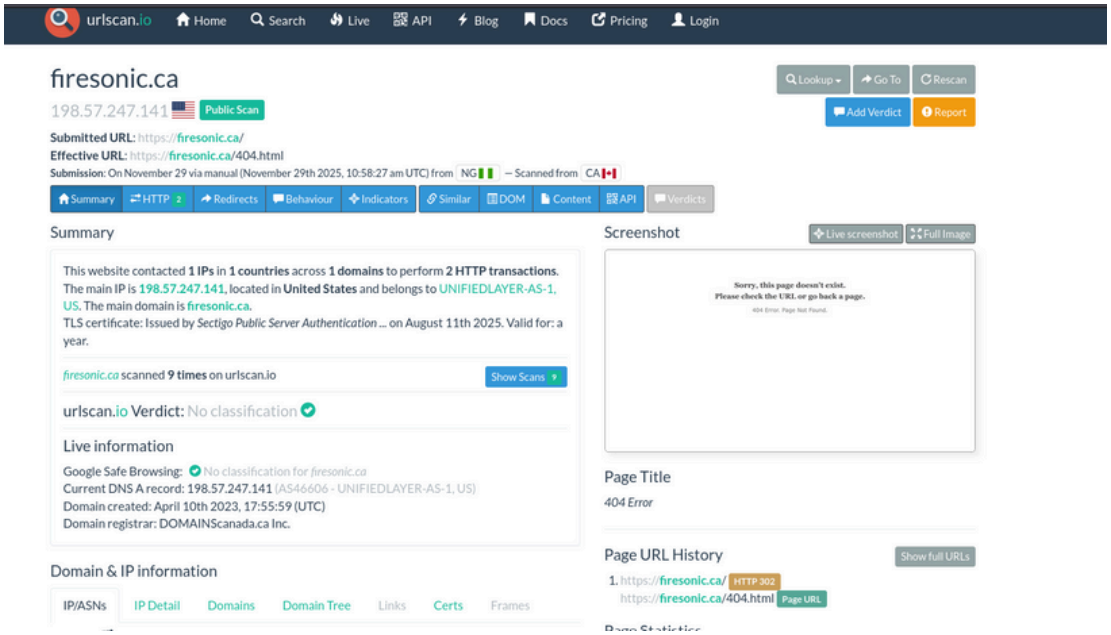
3. Content Analysis

3.1 Text Body

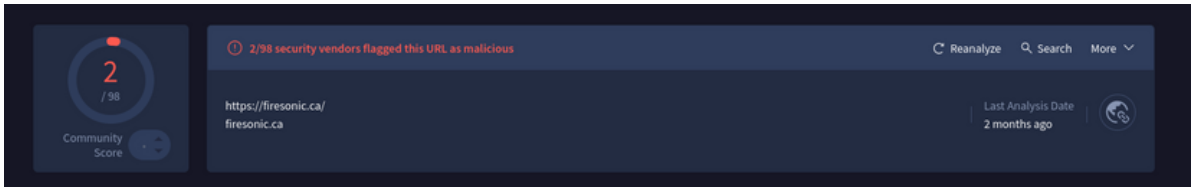
- Urgency tactics(You sent 0.79 ETH over the Ethereum Network)
- Poor grammar and spelling errors.

3.2 Embedded URL Analysis

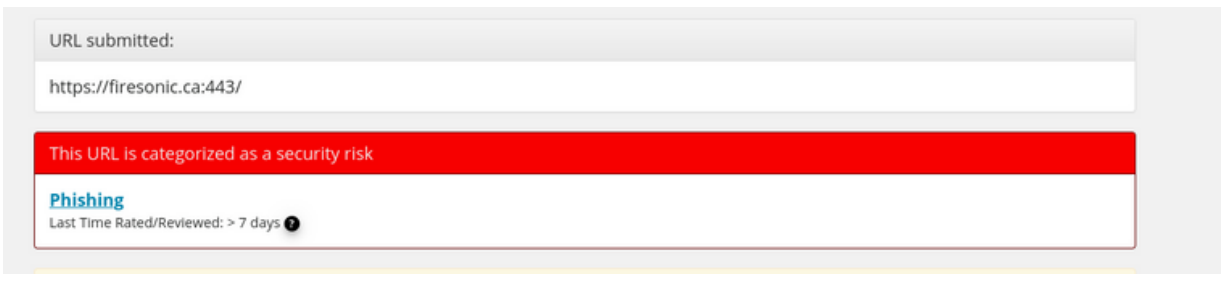
- Extracted URL Found in link: https://firesonic.ca
- Performed scans on the extracted URL using the following tools:
  - **URLScan.io**



  - **VirusTotal**



  - **Symantec SiteReview**



3.3 Threat Intelligence on Domain

- **Domain**: firesonic.ca

A WHOIS lookup revealed
Registrar DOMAINScanada.ca Inc.
Registered On:2023-04-10

The domain appears to be registered 2 years back and lacks a solid reputation, which is consistent with common phishing infrastructure.

4. Threat Intelligence Analysis

4.1 IP Address Reputation

- **IP Address**: 23.251.234.51
- The IP address has been reported multiple times on AbuseIPDB for malicious activity. Indicating active abuse, with reports linked to spam, and suspicious traffic. This IP should be treated as hostile and blocked in security systems.

4.2 Indicators of Compromise (IoCs)

- Email Header Anomalies: Missing DMARC, mismatched Return-Path and sending server.
- Malicious URL: The URL embedded in the email links to a suspicious domain.
- Malicious IP: 23.251.234.51

5. Threat Assessment

- **Type of Attack**: Credential harvesting via phishing email.
- **Risk Level**: High (active malicious links and IP address, multiple abuse reports).
- **Potential Impact**: financial fraud, identity theft.

6. Recommended Actions

- Block sender address and associated IPs at firewall and email gateway.
- Add malicious URL to URL filtering blacklist.
- Quarantine and delete suspicious emails from user inboxes.
- Educate users on identifying phishing attempts (urgent language, mismatched URLs).
- Report domains/IPs to relevant CERT authorities.

7. Conclusion

These analysis **confirm that the email is part of an active phishing campaign** designed to deceive user into divulging sensitive information and potentially execute malicious code. Multiple indicators including spoofed sender domains, mismatched return paths, missing DMARC checks, and malicious URLs multiple reported IP address confirms, that the email did not originate from a legitimate source. With the presence of urgency in the subject line and body text, combined with embedded links redirecting to fraudulent URL, aligns with common phishing tactics aimed at credential harvesting and financial fraud.