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Official Incident Report

Date: Feb, 04, 2025, 04:18 PM

Event ID: 314

Rule Name: SOC336 - Windows OLE Zero-Click RCE Exploitation Detected (CVE-2025-21298)

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Alert Details

Severity: Critical

SMTP Address: 84.38.130.118

Source Address: projectmanagement@pm.me

Destination Address: Austin@letsdefend.io

E-mail Subject: Important: Action Required for Upcoming Project Deadline

Attachment: mail.rtf

Attachment Hash: df993d037cdb77a435d6993a37e7750dbbb16b2df64916499845b56aa9194184

Device Action: Allowed

Trigger Reason: Malicious RTF attachment identified with known CVE-2025-21298 exploit pattern.

Based on the information provided in the alert, it appears that a suspicious email has been sent to **Austin's mailbox** containing a **malicious RTF attachment** with behaviour known for **RCE**. The alert is triggered by rule SOC336 - Windows OLE Zero-Click RCE Exploitation Detected (CVE-2025-21298).

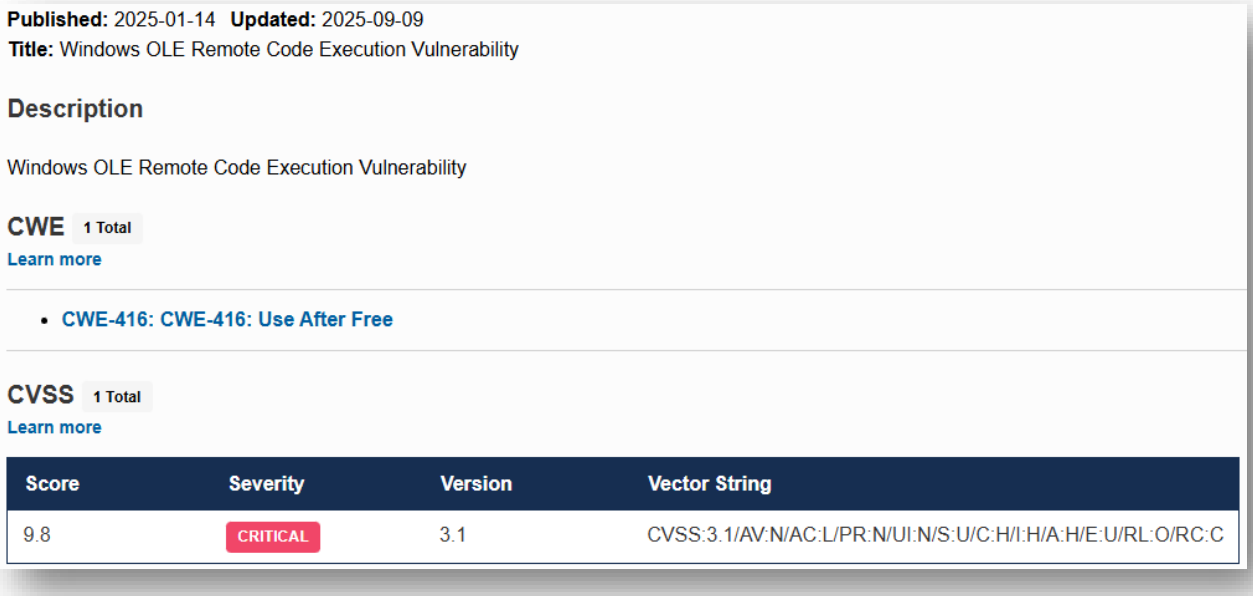
Overall, it appears that the alert may be **suspicious**, and further investigation is needed to identify the extent of the alert and determine if any necessary actions are required to remediate the situation.

Detection

Verify

As a security analyst, one of the first steps we take to verify the alert and determine whether it is a **false positive** or a **true positive** incident is to analyse CVE-2025-21298.

CVE-2025-21298 refers to a Windows OLE Remote Code Execution Vulnerability.



Published: 2025-01-14 **Updated:** 2025-09-09
Title: Windows OLE Remote Code Execution Vulnerability

Description

Windows OLE Remote Code Execution Vulnerability

CWE 1 Total
Learn more

- CWE-416: CWE-416: Use After Free

CVSS 1 Total
Learn more

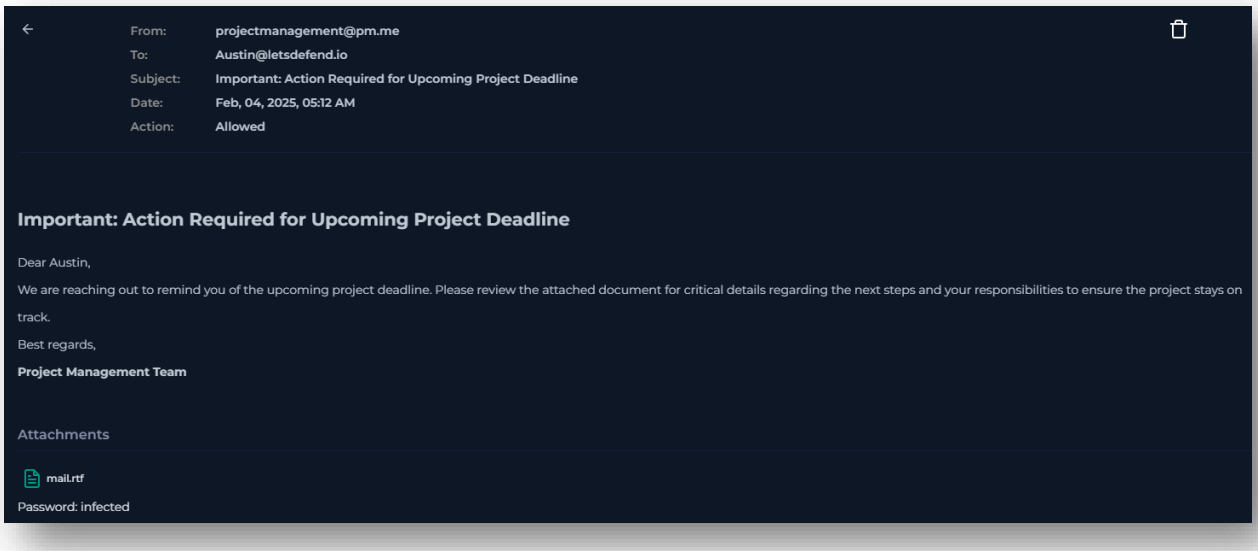
Score	Severity	Version	Vector String
9.8	CRITICAL	3.1	CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H/E:U/RL:O/RC:C

Windows OLE (Object Linking and Embedding) is a Microsoft technology allowing different applications to share data, letting users embed or link objects like charts from Excel into Word documents or PowerPoint presentations, creating compound files where data stays live and editable within its original application, and facilitating data transfer via drag-and-drop or clipboard. While powerful, OLE has also been a target for security vulnerabilities, leading to patches and hardening guides for secure usage.

The root cause for this vulnerability is CWE-416: Use After Free, which refers to when a product reuses or references memory after it has been freed.

In an email attack scenario, an attacker could exploit the vulnerability by sending the specially crafted email to the victim. Exploitation of the vulnerability might involve either a victim opening a specially crafted email with an affected version of Microsoft Outlook software, or a victim's Outlook application displaying a preview of a specially crafted email. This could result in the attacker executing remote code on the victim's machine.

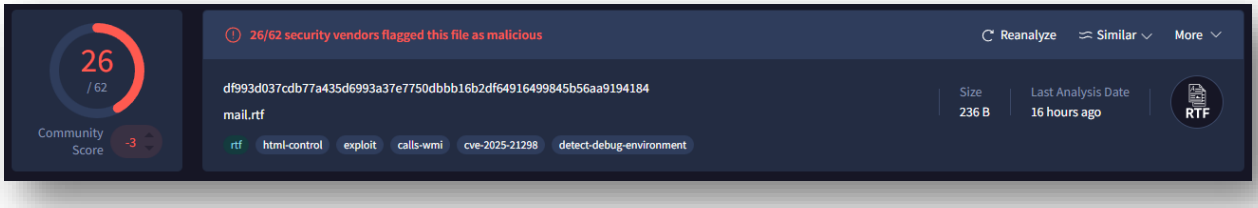
We need to investigate the activity associated with the alert regarding the email sent from **projectmanagement@pm.me** to **Austin@letsdefend.io** containing a **malicious RTF attachment**.



Analysis

We can begin the analysis by analyzing the file hash **df993d037cdb77a435d6993a37e7750dbbb16b2df64916499845b56aa9194184** using **VirusTotal**.

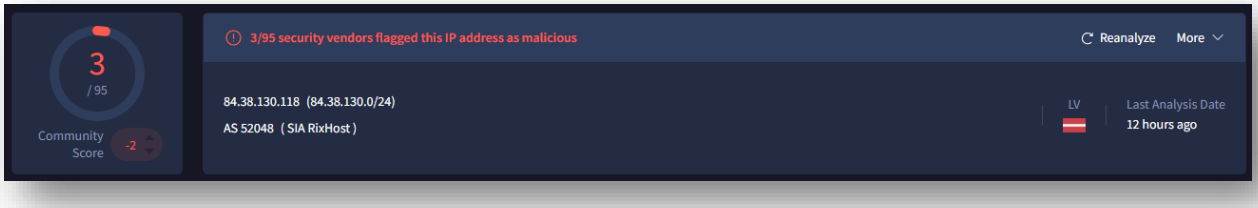
https://www.virustotal.com/gui/file/df993d037cdb77a435d6993a37e7750dbbb16b2df64916499845b56aa9194184



We discovered the MD5 hash of this file **961027d29dda725b8117571a6a6ca1d5**.

Next, we can analyse the attacker's IP address **84.38.130.118**.

https://www.virustotal.com/gui/ip-address/84.38.130.118



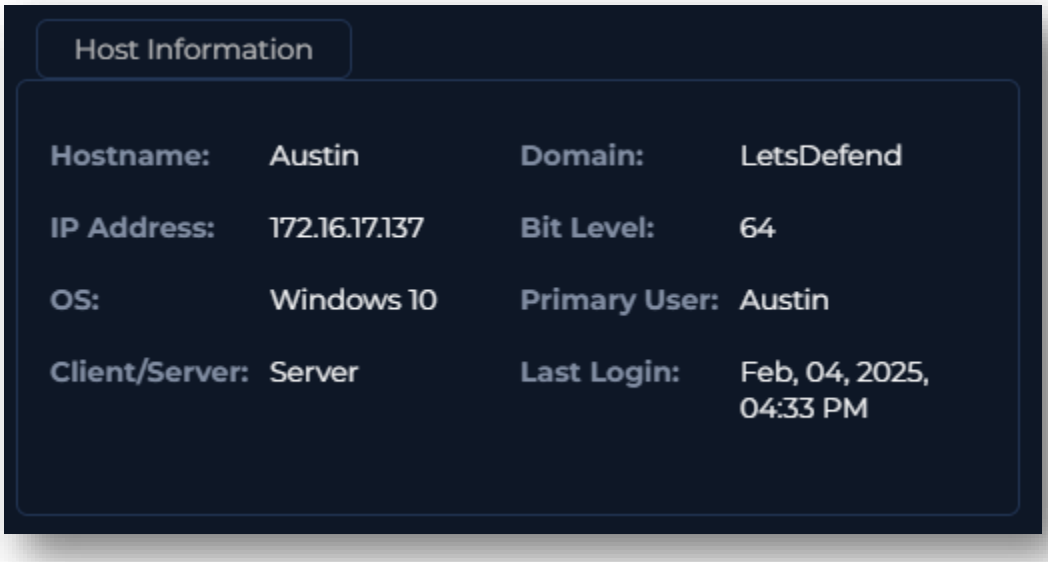
The attacker's IP is malicious, originating from Latvia.

According to Cluster25, this IPv4 is used as a CnC by **SLIVER**. Sliver is a **Command and Control (C2) system** made for penetration testers, red teams, and advanced persistent threats. It generates implants (slivers) that can run on virtually every architecture out there, and securely manage these connections through a central server. Sliver supports multiple callback protocols including **DNS**, **TCP**, and **HTTP(S)** to make egress simple.

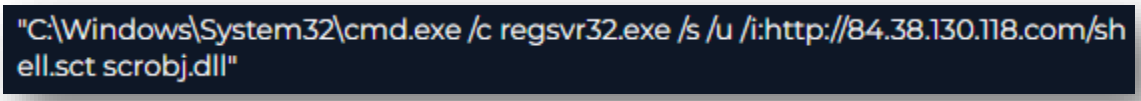
Next, we can analyse Log Management to determine if the user opened the email.

We found 1 event (before Feb, 04, 2025, 08:06 AM UTC) with a Destination Address of **84.38.130.118**. This indicates the email was opened and the attachment was automatically rendered, resulting in the malicious file connecting to **http://84.38.130.118.com/shell.sct** via cmd.exe on port 80.

Now that we see the initial attack was successful in communicating with the C2 server, we need to investigate Endpoint Security for further information.



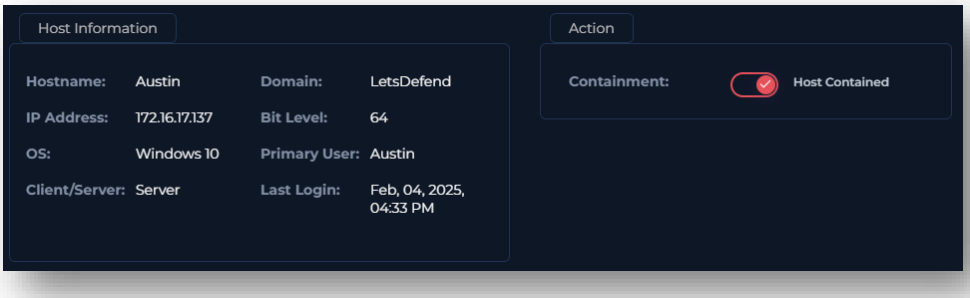
Investigating Austin's Terminal History, we find 1 command that was executed.



The observed command leverages **regsvr32.exe** and **scrobj.dll** to retrieve and execute a remote scriptlet (.sct), a known **Squiblydoo** technique for **fileless code execution**. This activity aligns with post-exploitation behaviour following Windows OLE Zero-Click RCE (CVE-2025-21298), where malicious OLE object parsing enables arbitrary command execution without user interaction.

Containment

Based on the information gathered during the investigation, it is highly likely that the system has been compromised. Immediate isolation of the system from the network is required.



Summary

The incident involves a compromised system named **Austin** with an IP address of **172.16.17.137**. The alert was triggered by the identification of a suspicious email containing a malicious RTF attachment, based on the rule SOC336 - Windows OLE Zero-Click RCE Exploitation Detected (CVE-2025-21298).

Upon further analysis, it was discovered that mail.rtf was an indicator of CVE-2025-21298. The attacker crafted an email and sent it to Austin's mailbox, where mail.rtf was automatically rendered and formed a connection with the C2 server at **http://84.38.130.118.com/shell.sct**.

This host leveraged the command **regsvr32.exe** and **scrobj.dll** to retrieve and execute a remote scriptlet (.sct) from the C2 server, a known **Squiblydoo** technique for **fileless code execution**.

Based on the findings of the incident, immediate action needs to be taken to isolate the compromised system, and the event was identified as a **True Positive**.

Lessons Learned

- Attackers can exploit this flaw by sending a malicious email containing a harmful RTF document
- When the victim opens or previews the email in Microsoft Outlook, the vulnerability is triggered, allowing the attacker to execute arbitrary code on the affected system
- This kind of attack requires no user interaction, only needing the user to preview the email

Remediation Actions

- Promptly deploy the relevant Microsoft security updates that address the specific OLE vulnerability
- Configure Microsoft Outlook to read all standard mail in plain text format to prevent the automatic rendering of malicious rich text format (RTF) content
- Update email security rules to immediately quarantine or block emails containing attachments like RTF files or those from suspicious domains/senders
- Immediately block outbound communication from any potentially compromised host to known command-and-control (C2) servers

Appendix

MITRE ATT&CK

MITRE Tactics	MITRE Techniques
Initial Access	T1566.001 - Phishing: Spearphishing Attachment
Execution	T1059.003 - Command and Scripting Interpreter: Windows Command Shell
Execution	T1203 - Exploitation for Client Execution

Artifacts

Value	Comment	Type
http://84.38.130.118.com/shell.sct	Hosts remote scriptlet	URL Address
projectmanagement@pm.me	E-mail Sender	E-mail Sender
pm.me	Why are we trusting this domain?	E-mail Domain
84.38.130.118	C2 Server	IP Address
961027d29dda725b8117571a6a6ca1d5	mail.rtf	MD5 Hash

LetsDefend Playbook

LetsDefend Event ID: 314