

Chinese Espionage Group UNC3886 Found Exploiting CVE-2023-34048 Since Late 2021

By Mandiant

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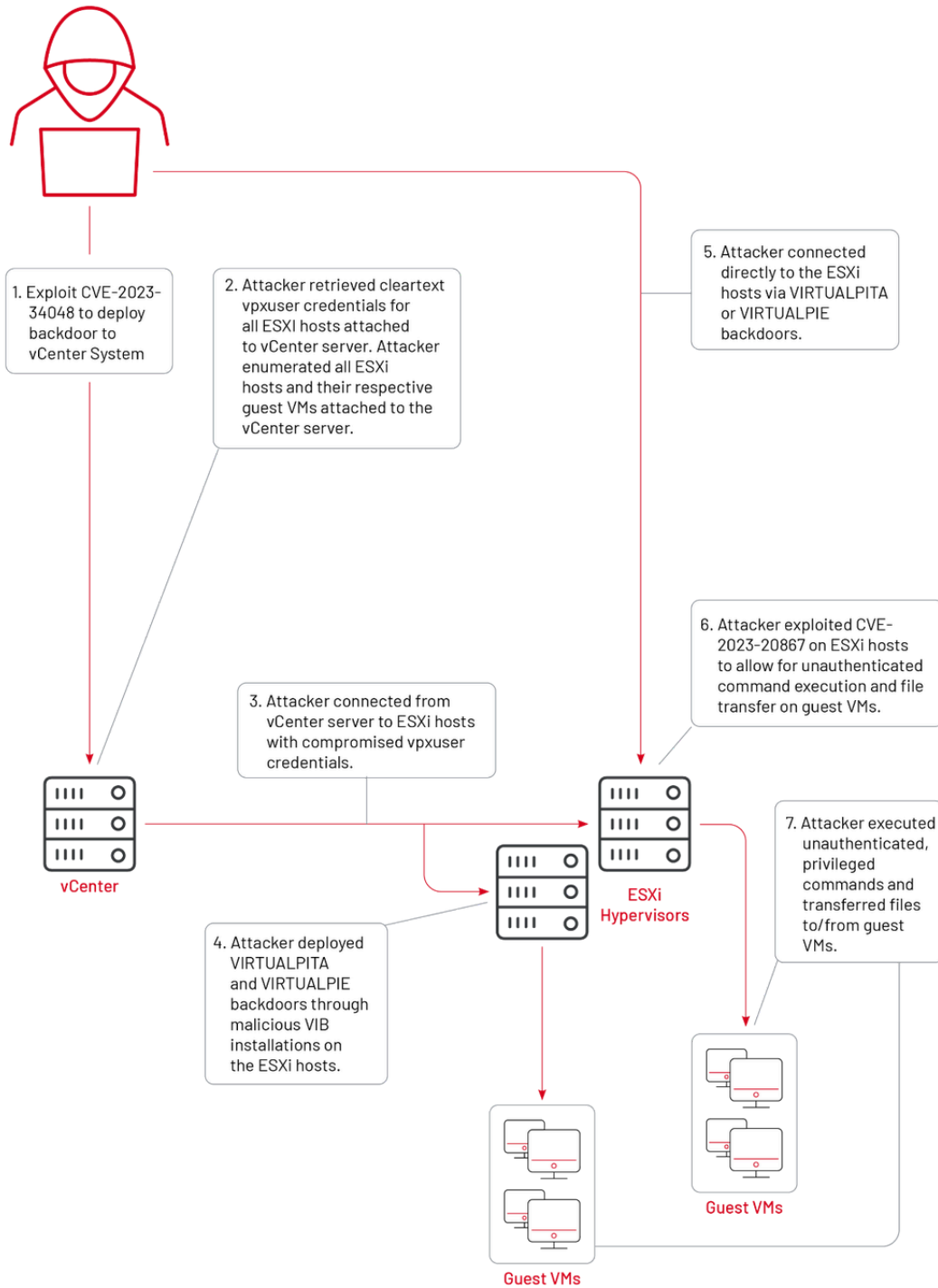
Written by: Alexander Marvi, Shawn Chew, Punsan Boonyakarn

While publicly reported and patched in October 2023, Mandiant and VMware Product Security have found [UNC3886](#), a highly advanced China-nexus espionage group, has been exploiting [CVE-2023-34048](#) as far back as late 2021.

These findings stem from Mandiant's continued research of [the novel attack paths used by UNC3886](#), which historically focuses on technologies that are unable to have EDR deployed to them. UNC3886 has a track record of utilizing zero-day vulnerabilities to complete their mission without being detected, and this latest example further demonstrates their capabilities.

When covering the discovery of CVE-2023-20867 in VMware's tools, the attack path in Figure 1 was presented describing the flow of attacker activity within the VMware ecosystem (i.e. vCenter, ESXi Hypervisors, Virtualized Guest Machines). At the time, with the evidence available, Mandiant continued researching how backdoors were being deployed to vCenter systems.

ATTACK PATH



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In late 2023, a similarity was observed across impacted vCenter systems that explained how the attacker was gaining initial access to the vCenter systems. Located in the VMware service crash logs, `/var/log/vMonCoredumper.log`, the following entries (Figure 2) show the "vmdird" service crashing minutes prior to attacker backdoors being deployed.

```
2022-01-01T01:31:55.361+00:00| <REDACTED>| I125: FILE: FileCreateDirectoryEx: Failed to create /tmp. Error = 1;
2022-01-01T01:31:55.362+00:00| <REDACTED>| I125: FILE: FileCreateDirectoryEx: Failed to create /tmp/vmware-root;
2022-01-01T01:31:55.419+00:00| <REDACTED>| I125: Notify vMon about vmdird dumping core. Pid : 1558
2022-01-01T01:31:55.421+00:00| <REDACTED>| I125: Successfully notified vMon.
2022-01-01T01:31:55.927+00:00| <REDACTED>| I125: Successfully generated core file.
```

Figure 2: vMonCorDumper.log (Timestamps revised for client confidentiality)

Analysis of the core dump of "vmdird" by both Mandiant and VMware Product Security showed that the process crashing is closely aligned with the exploitation of [CVE-2023-34048](#), the out-of-bounds write vCenter vulnerability in the implementation of the DCE/RPC protocol patched in October 2023, which enables unauthenticated remote command execution on vulnerable systems.

While publicly reported and patched in October 2023, Mandiant has observed these crashes across multiple UNC3886 cases between late 2021 and early 2022, leaving a window of roughly a year and a half that this attacker had access to this vulnerability. Most environments where these crashes were observed had log entries preserved, but the "vmdird" core dumps themselves were removed. VMware's default configurations keep core dumps for an indefinite amount of time on the system, suggesting the core dumps were purposely removed by the attacker in an attempt to cover their tracks.

As mentioned in the VMware [advisory](#), this vulnerability has since been patched in vCenter 8.0U2 and Mandiant recommends VMware users updating to the latest version of vCenter to account for this vulnerability seeing exploitation in the wild.

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Source: <https://cloud.google.com/blog/topics/threat-intelligence/chinese-vmware-exploitation-since-2021/>