RESEARCH & INTELLIGENCE

RANSOMWARE USED AS A DISTRACTION

Counter Threat Unit Research Team
February 3, 2016

During a client security intelligence service engagement, SecureWorks Counter Threat Unit™ (CTU) analysts discovered the threat actor using a novel technique to distract responders. By the time the client engaged CTU analysts, the adversary had clearly been established within the compromised infrastructure for some time, had acquired and was actively using the credentials of at least one domain administrator account, and was using those credentials to move throughout the infrastructure via the Terminal Services Client. CTU analysts also observed the threat actor accessing several geographically dispersed domain controllers within a relatively short period of time, indicating that extensive reconnaissance and infrastructure mapping had already occurred.

Through digital forensic analysis of images acquired from several domain controller systems, CTU analysts identified a malicious executable file and supporting VBScript (.vbs) file on one domain controller, as well as an XML file at C:\Windows\SYSVOL\domain\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\USER\Preferences\ScheduledTasks\ScheduledTasks.xml. Partial contents of this XML file are shown in Figure 1.

```
<?xml version="1.0" encoding="utf-8" ?>
- <ScheduledTasks clsid="[REDACTED]">
- <Task clsid="[REDACTED]" name="update" image="2" changed="2015-12-07 15:50:35"
    uid="[REDACTED]">
- <Properties action="U" name="update" appName="\\[REDACTED]\sysvol\update.vbs"
    args="" startIn="" comment="" runAs="[REDACTED]\administrator"
      cpassword="[REDACTED]" enabled="1">
```

Figure 1. Partial ScheduledTasks.xml file contents. (Source: Dell SecureWorks)

This file creates a scheduled task that is propagated via Group Policy Objects (GPOs), infecting systems as they join the domain and GPOs are pushed out. The .vbs file referenced within the scheduled task contained code to reach back to the domain controller and then copy and execute the malicious executable file on the local system. As illustrated by the task triggers displayed in Figure 2, the scheduled task was written to persist for only two days.

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Placing the malicious executable on one system and the .vbs and .xml files on subsequent domain controllers could have resulted in a devastating mass infection of the infrastructure. If not for a minor misspelling in the ScheduledTasks.xml file, systems across the infrastructure would have been infected during those two days as they joined the domain. This large-scale infection would have presented the IT staff with a significant and potentially overwhelming challenge.

It is likely that the threat actor intended the widespread disruption to distract responders from other malicious activity. The CTU research team recommends that IT administration staff check domain controllers for the existence of ScheduledTasks.xml files and review the content of identified files. These files have legitimate use when knowingly employed within a domain infrastructure, but CTU analysts' observations indicate that they have also been used to attempt mass deployment of malware.

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The Secureworks Counter Threat Unit™ (CTU) is a dedicated threat research team that analyzes threat data across our global customer base and actively monitors the threat landscape.

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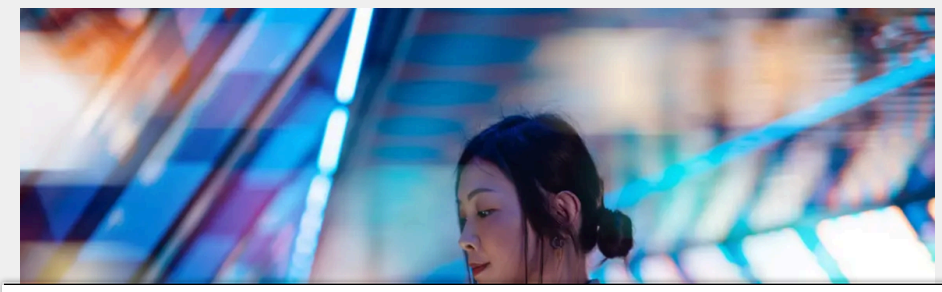

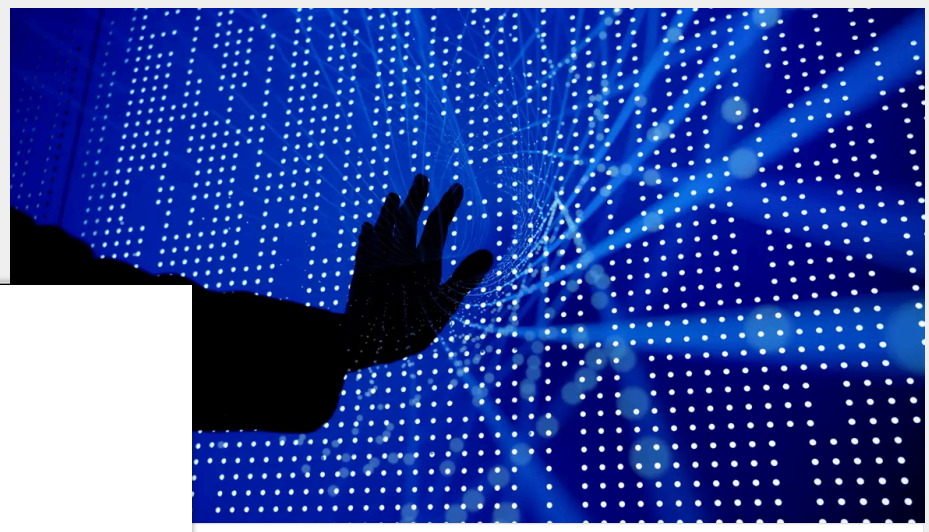

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