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## Security Newsletter

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# Zerologon attack lets hackers take over enterprise networks: Patch now



Last month Microsoft patched one of the most severe bugs ever reported to the company, an issue that could be abused to easily take over Windows Servers running as domain controllers in enterprise networks.

The bug was patched in the August 2020 Patch Tuesday under the identifier of CVE-2020-1472. It was described as an elevation of privilege in Netlogon, the protocol that authenticates users against domain controllers. The vulnerability received the maximum severity rating of 10, but details were never made public, until now. The entire attack is very fast and can last up to three seconds, at most. There are limitations to how a Zerologon attack can be used. For starters, it cannot be used to take over Windows Servers from outside the network. An attacker first needs a foothold inside a network. However, when this condition is met, it's literally game over for the attacked company. Furthermore, this bug is also a boon for malware and ransomware gangs, which often rely on infecting one computer inside a company's network and then spreading to multiple others. With Zerologon, this task has been considerably simplified.

Attacks using Zerologon are a given, primarily due to the bug's severity, wide impact, and benefits for attackers. Since the release of Secura's writeup, numerous researchers have released proof-of-concept exploits that allow a user to gain domain administrator privileges on a vulnerable network. As fixing the Zerologon vulnerability can cause some devices to not properly authenticate, Microsoft is rolling out the fix in two stages. The first stage was released on August 11th in the form of a security update that will prevent Windows Active Directory Domain controllers from using unsecured RPC communication. On February 9th, 2021, as part of the Patch Tuesday updates, Microsoft will release a second update that will enter the enforcement phase that requires all devices on the network to use secure-RPC, unless specifically allowed by an administrator.

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## First death reported following a ransomware attack on a German hospital



On September 10th, the University Hospital Düsseldorf (UKD) in Germany suffered a ransomware attack. The patient, identified only as a woman who needed urgent medical care, died after being re-routed to a hospital in the city of Wuppertal, more than 30 km away from her initial intended destination, the Duesseldorf University Hospital. The threat actors compromised the hospital's network through a known software vulnerability in Citrix ADC. Patches for the Citrix ADC vulnerability have been available since January 2020.

With their IT systems disrupted, the hospital announced that planned and outpatient treatments and emergency care could not occur at the hospital. Those seeking emergency care were instead redirected to more distant hospitals for treatment. A patient in a life-threatening condition was redirected to a more distant hospital in Wuppertal after University Hospital Düsseldorf deregistered its emergency services. This disruption led to the patient receiving care an hour later, which may have led to her death.

German media reports that the police contacted the ransomware operators via the ransom note instructions and explained that their target was a hospital. The ransom notes left on the hospital's encrypted servers were incorrectly addressed to Heinrich Heine University, rather than the hospital itself. After the police contacted the threat actors and explained that they encrypted a hospital, the ransomware operators withdrew the ransom demand and provided a decryption key.

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