



# Zoho ManageEngine RCE Vulnerability

## Multiple Zoho ManageEngine products exploited in the wild

<https://www.manageengine.com/security/advisory/CVE/cve-2022-47966.html>  
CVEs: CVE-2022-47966

Multiple Zoho ManageEngine on-premise products, such as ServiceDesk Plus, Password Manager Pro and ADSelfService Plus, allow remote code execution due to the usage of an outdated third party dependency, Apache Santuario. Successful exploitation could lead to remote code execution and evidence of exploitation in the wild by Advanced Persistent Threat (APT) Groups.

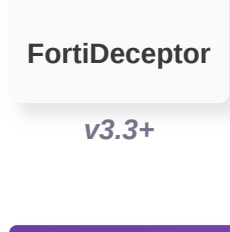
Background	ManageEngine's products are widely used across enterprises with broad suite of IT management software which perform several important business functions. Previously in 2021, we saw a different vulnerability, Zoho ManageEngine ServiceDesk Plus (CVE-2021-44077) exploited in the wild. Full Outbreak Report can be read here: <a href="https://www.fortiguard.com/outbreak-alert/zoho-exploit">https://www.fortiguard.com/outbreak-alert/zoho-exploit</a>
Announced	Jan 20, 2023: FortiGuard Labs released a Threat Signal Report on Proof-of-Concept Released for Zoho ManageEngine RCE vulnerability (CVE-2022-47966). <a href="https://www.fortiguard.com/threat-signal-report/4954/">https://www.fortiguard.com/threat-signal-report/4954/</a>  Jan 23, 2023: FortiGuard Labs released an IPS signature (ID: 52571) to detect and block any attack attempts targeting CVE-2022-47966.
Latest Developments	Jan 23, 2023: CISA added CVE-2022-47966 to its Known Exploited Vulnerabilities Catalog (KEV) <a href="https://www.cisa.gov/known-exploited-vulnerabilities-catalog">https://www.cisa.gov/known-exploited-vulnerabilities-catalog</a>  April 18, 2023: Microsoft Threat Intelligence linked Mint Sandstorm, an Iranian government-backed threat actor to exploit Zoho ManageEngine vulnerability to gain initial access and targeting of US critical infrastructure. <a href="https://www.microsoft.com/en-us/security/blog/2023/04/18/nation-state-threat-actor-mint-sandstorm-refines-tradecraft-to-attack-high-value-targets/">https://www.microsoft.com/en-us/security/blog/2023/04/18/nation-state-threat-actor-mint-sandstorm-refines-tradecraft-to-attack-high-value-targets/</a>  FortiGuard Labs recommends organizations using any of the affected products listed in ManageEngine's advisory to update immediately as exploit code is publicly available and exploitation is in the wild.

## PROTECT

Countermeasures across the security fabric for protecting assets, data and network from cybersecurity events:

### Reconnaissance

#### Lure



FortiDeceptor  
v3.3+

#### Decoy VM



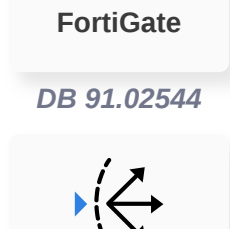
FortiDeceptor  
v3.3+

### Weaponization

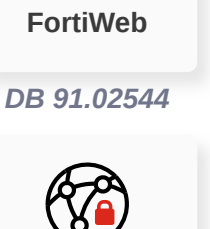
#### Delivery

##### AV

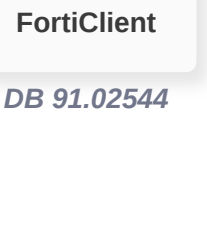
Detects and blocks known malware related to Zoho ManageEngine RCE campaign (CVE-2022-47966)



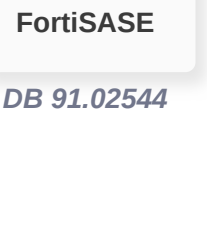
FortiGate  
DB 91.02544



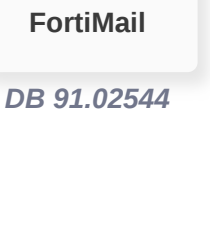
FortiWeb  
DB 91.02544



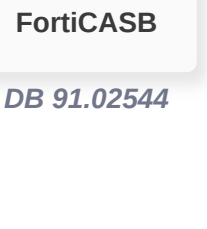
FortiClient  
DB 91.02544



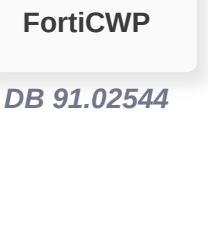
FortiSASE  
DB 91.02544



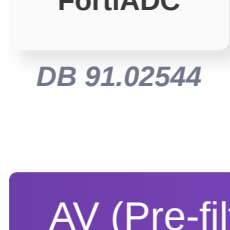
FortiMail  
DB 91.02544



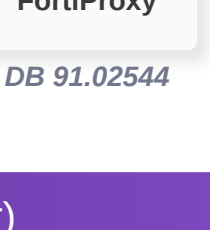
FortiCASB  
DB 91.02544



FortiCWP  
DB 91.02544



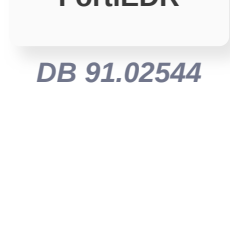
FortiADC  
DB 91.02544



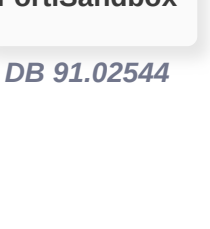
FortiProxy  
DB 91.02544

##### AV (Pre-filter)

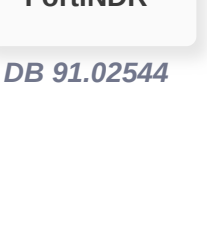
Detects and blocks known malware related to Zoho ManageEngine RCE campaign (CVE-2022-47966)



FortiEDR  
DB 91.02544



FortiSandbox  
DB 91.02544

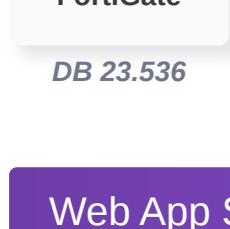


FortiNDR  
DB 91.02544

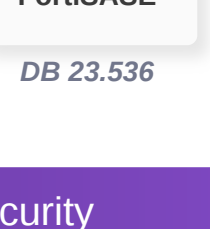
### Exploitation

#### IPS

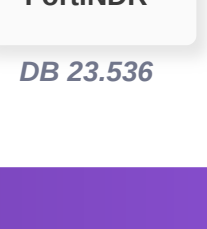
Detects and blocks attack attempts related to Zoho ManageEngine RCE Vulnerability (CVE-2022-47966)



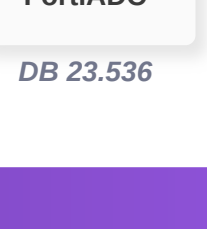
FortiGate  
DB 23.536



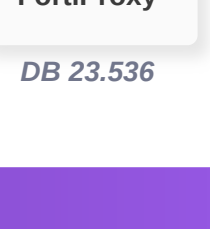
FortiSASE  
DB 23.536



FortiNDR  
DB 23.536



FortiADC  
DB 23.536



FortiProxy  
DB 23.536

#### Web App Security

Detects and blocks attack attempts related to Zoho ManageEngine RCE Vulnerability (CVE-2022-47966)



FortiWeb  
DB 0.00342

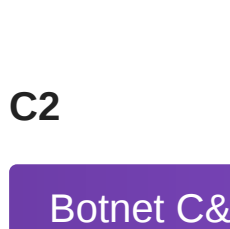


FortiADC  
DB 1.00042

### Installation

#### Post-execution

Detect and blocks post-exploitation activity associated with exploitation of CVE-2022-47966 and unknown threats

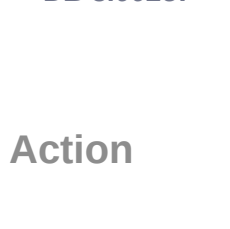


FortiEDR  
v5.0+

### C2

#### Botnet C&C

Blocks known C2 servers related to Zoho ManageEngine RCE campaign (CVE-2022-47966)



FortiGate  
DB 3.00257

### Action

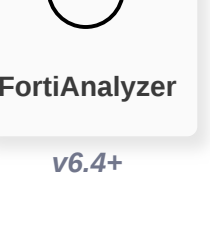
## DETECT

Find and correlate important information to identify an outbreak, the following updates are available to raise alert and generate reports:

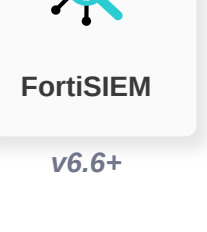
#### Threat Hunting



FortiEDR  
v5.0+

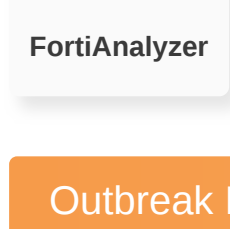


FortiAnalyzer  
v6.4+

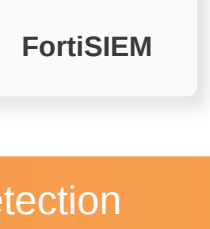


FortiSIEM  
v6.6+

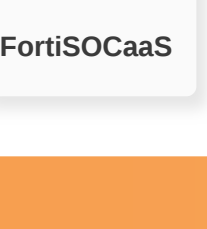
#### IOC



FortiAnalyzer

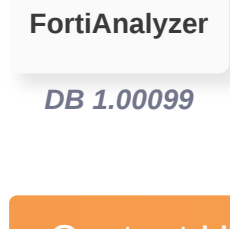


FortiSIEM



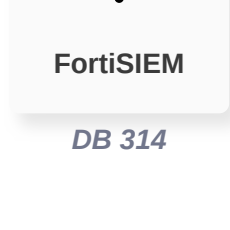
FortiSOCaaS

#### Outbreak Detection



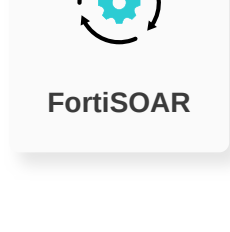
FortiAnalyzer  
DB 1.00099

#### Content Update



FortiSIEM  
DB 314

#### Playbook



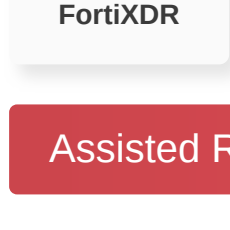
FortiSOAR

## RESPOND

Develop containment techniques to mitigate impacts of security events:

#### Automated Response

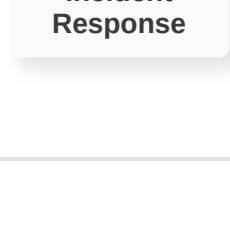
Services that can automatically respond to this outbreak.



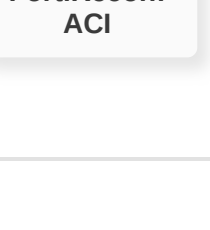
FortiXDR

#### Assisted Response Services

Experts to assist you with analysis, containment and response activities.



Incident Response



FortiRecon: ACI

## RECOVER

Improve security posture and processes by implementing security awareness and training, in preparation for (and recovery from) security incidents:

#### InfoSec Services

Security readiness and awareness training for SOC teams, InfoSec and general employees.



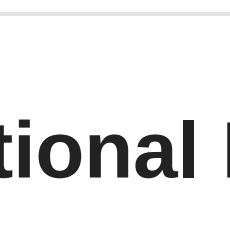
Response Readiness

## IDENTIFY

Identify processes and assets that need protection:

#### Attack Surface Monitoring (Inside & Outside)

Security reconnaissance and penetration testing services, covering both internal & external attack vectors, including those introduced internally via software supply chain.



Security Rating



FortiRecon: EASM

## Additional Resources

FortiGuard Threat Signal	<a href="https://www.fortiguard.com/threat-signal-report/4954">https://www.fortiguard.com/threat-signal-report/4954</a>
Helpnet Security	<a href="https://www.helpnetsecurity.com/2023/01/17/cve-2022-47966-poc/">https://www.helpnetsecurity.com/2023/01/17/cve-2022-47966-poc/</a>
Bleeping Computer	<a href="https://www.bleepingcomputer.com/news/security/cisa-warns-of-critical-manageengine-rce-bug-exploited-in-attacks/">https://www.bleepingcomputer.com/news/security/cisa-warns-of-critical-manageengine-rce-bug-exploited-in-attacks/</a>
The Hacker News	<a href="https://thehackernews.com/2023/02/experts-sound-alarm-over-growing.html">https://thehackernews.com/2023/02/experts-sound-alarm-over-growing.html</a>
Updated	2026-02-13 13:03:05

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