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> Microsoft rushes to register Autodiscover domains leaking credentials

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# Microsoft rushes to register Autodiscover domains leaking credentials

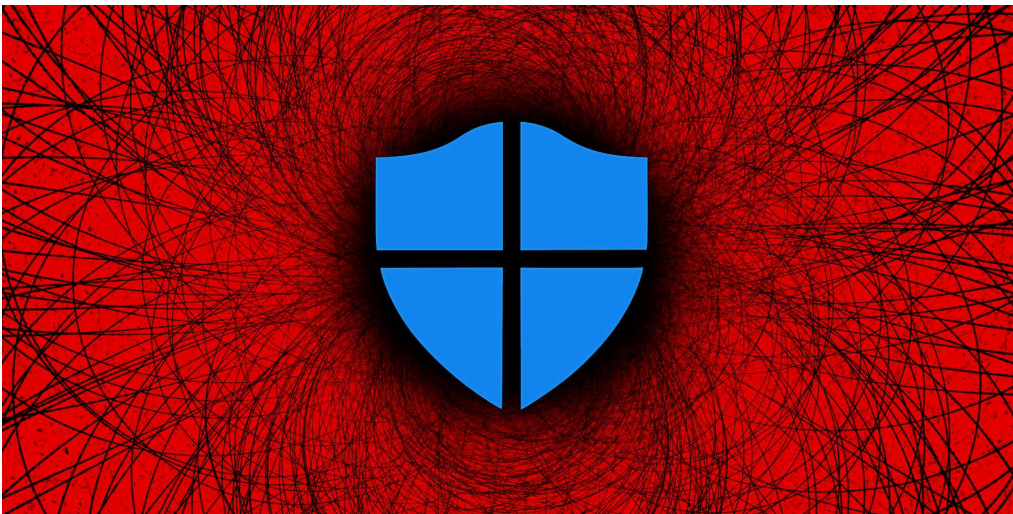
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By  
**Lawrence Abrams**  
(<https://www.bleepingcomputer.com/author/lawrence-abrams/>)

September 24, 2021

01:03 PM

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Microsoft is rushing to register Internet domains used to steal Windows credentials sent from faulty implementations of the Microsoft Exchange Autodiscover protocol.

On Monday, Guardicore's Amit Serper released new research (<https://www.bleepingcomputer.com/news/microsoft/microsoft-exchange-autodiscover-bugs-leak-100k-window-credentials/>) about how the issue caused the exposure of close to 100,000 unique Windows and email credentials.

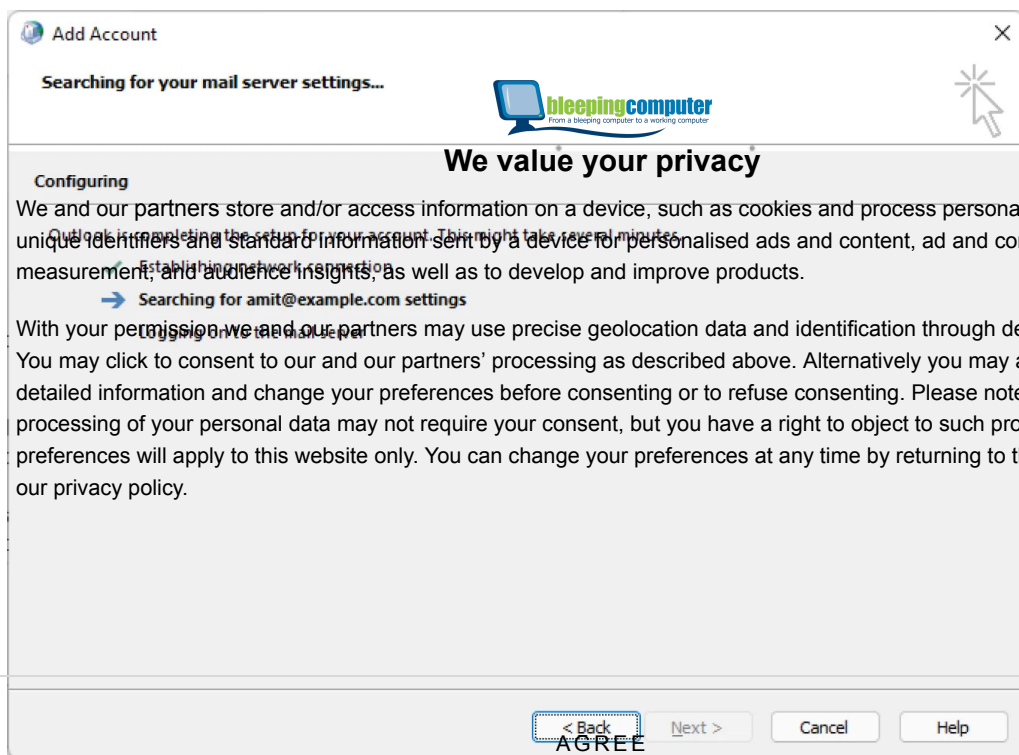
We and our partners store and/or access information on a device, such as cookies and process personal data, such as unique identifiers and standard information sent by a device for personalised ads and content, ad and content measurement, and audience insights, as well as to develop and improve products. When users configure their Exchange accounts on email clients, the app will attempt to authenticate to various Autodiscover URLs associated with

Microsoft Exchange servers for their organization. If a successful authentication occurs, the Exchange server will send back settings that the mail client should use. With your permission we and our partners may use precise geolocation data and identification through device scanning. You may click to consent to our and our partners' processing as described above. Alternatively you may access more detailed information and change your preferences before consenting or to refuse consenting. Please note that some processing of your personal data may not require your consent, but you have a right to object to such processing. Your preferences will apply to this website only. You can change your preferences at any time by returning to this site or visit our privacy policy.

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However, many mail clients, including some versions of Microsoft Outlook and Office 365, incorrectly implement the Autodiscover protocol causing them to try and authenticate to third-party autodiscover.[tld] URLs that are not related to a user's organization.

Examples of such domains include autodiscover.com, autodiscover.uk, and autodiscover.de.

Threat actors could register autodiscover.[tld] domains and begin collecting the leaked Windows and email credentials for attacks against the organization.

## Microsoft rushes to register autodiscover domains

Research regarding faulty Microsoft Autodiscover protocol implementations leaking Windows credentials is not new, and Microsoft has been aware of the issue for years.

The research was first disclosed in a Black Hat Asia 2017 briefing (<https://www.blackhat.com/asia-17/briefings/schedule/#all-your-emails-belong-to-us-exploiting-vulnerable-email-clients-via-domain-name-collision-5301>), together with a formal research paper (<https://www.blackhat.com/docs/asia-17/materials/asia-17-Nesterov-All-Your-Emails-Belong-To-Us-Exploiting-Vulnerable-Email-Clients-Via->

Domain-Name-Collision-wp.pdf) explaining the leaks. Other researchers also said they have reported the issue to Microsoft in the past and were told it was not a bug.



However, after Serper released his report, Microsoft issued a statement to BleepingComputer indicating that that information was new to them. Microsoft stated that it does not collect or store personal data, such as unique identifiers and standard information sent by a device for personalised ads and content, ad and content measurement, and audience insights, as well as to develop and improve products.

*"We are actively investigating and will take appropriate steps to protect customers. We are committed to coordinated vulnerability disclosure, an industry standard collaborative approach that reduces unnecessary risk for customers before issues are made public. Unfortunately, this issue was not reported to us before the researcher marketing team presented it to the media, so we learned of the claims today." Jeff Jones, Sr. Director, Microsoft.*

Since then, Microsoft has been rushing to register any autodiscover.[tld] domains it can find to prevent them from being used to steal Windows credentials.

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```
bleeping@DESKTOP-JI3G28P:~$ whois autodiscover.pr
Domain Name: AUTODISCOVER.PR
Registry Domain ID: D425500000337733941-AGRS
Registrar WHOIS Server:
Registrar URL: http://www.markmonitor.com
Updated Date: 2021-09-22T20:11:03Z
Creation Date: 2021-09-22T20:05:59Z
Registry Expiry Date: 2022-09-22T20:05:59Z
Registrar Registration Expiration Date:
Registrar: MarkMonitor Inc.
Registrar IANA ID: 292
Registrar Abuse Contact Email: abusecomplaints@markmonitor.com
Registrar Abuse Contact Phone: +1.2083895740
Reseller:
Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited
Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited
Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited
Domain Status: serverTransferProhibited https://icann.org/epp#serverTransferProhibited
Domain Status: addPeriod https://icann.org/epp#addPeriod
Registry Registrant ID: C1389621-AGRS
Registrant Name: Domain Administrator
Registrant Organization: Microsoft Corporation
Registrant Street: One Microsoft Way
Registrant City: Redmond
Registrant State/Province: WA
Registrant Postal Code: 98052
Registrant Country: US
```

Microsoft registering autodiscover domains

At the time of this writing, BleepingComputer has confirmed that Microsoft registered at least 68 domains related to Autodiscover, which are listed below.

|                 |                 |                 |
|-----------------|-----------------|-----------------|
| autodiscover.af | autodiscover.tl | autodiscover.pn |
| autodiscover.ax | autodiscover.gf | autodiscover.pr |
| autodiscover.as | autodiscover.tf | autodiscover.re |
| autodiscover.ag | autodiscover.gl | autodiscover.rw |
| autodiscover.am | autodiscover.gp | autodiscover.lc |
| autodiscover.ac | autodiscover.gt | autodiscover.pm |
| autodiscover.by | autodiscover.gy | autodiscover.st |



|                 |                 |                 |
|-----------------|-----------------|-----------------|
| autodiscover.bj | autodiscover.ht | autodiscover.sn |
| autodiscover.bi | autodiscover.hn | autodiscover.sc |
| autodiscover.cm | autodiscover.hk | autodiscover.sl |
| autodiscover.cl | autodiscover.je | autodiscover.sx |
| autodiscover.cn | autodiscover.ke | autodiscover.tk |
| autodiscover.cu | autodiscover.ki | autodiscover.tl |
| autodiscover.cz | autodiscover.lk | autodiscover.tn |
| autodiscover.de | autodiscover.lv | autodiscover.tb |
| autodiscover.dk | autodiscover.ly | autodiscover.tb |
| autodiscover.dm | autodiscover.ma | autodiscover.td |
| autodiscover.do | autodiscover.mc | autodiscover.te |
| autodiscover.dz | autodiscover.md | autodiscover.tg |
| autodiscover.ec | autodiscover.me | autodiscover.th |
| autodiscover.ee | autodiscover.mg | autodiscover.tj |
| autodiscover.eg | autodiscover.mh | autodiscover.tk |
| autodiscover.es | autodiscover.mi | autodiscover.tl |
| autodiscover.et | autodiscover.mk | autodiscover.tn |
| autodiscover.fi | autodiscover.ml | autodiscover.to |
| autodiscover.fj | autodiscover.mm | autodiscover.tp |
| autodiscover.gd | autodiscover.mn | autodiscover.tr |
| autodiscover.ge | autodiscover.mo | autodiscover.tt |
| autodiscover.gf | autodiscover.mp | autodiscover.tv |
| autodiscover.gg | autodiscover.mq | autodiscover.tw |
| autodiscover.gh | autodiscover.ms | autodiscover.tz |
| autodiscover.gi | autodiscover.mu | autodiscover.ua |
| autodiscover.gl | autodiscover.mv | autodiscover.ug |
| autodiscover.gm | autodiscover.mw | autodiscover.uz |
| autodiscover.gn | autodiscover.mx | autodiscover.vc |
| autodiscover.go | autodiscover.na | autodiscover.ve |
| autodiscover.gp | autodiscover.nc | autodiscover.vg |
| autodiscover.gq | autodiscover.ne | autodiscover.vi |
| autodiscover.gr | autodiscover.nf | autodiscover.vu |
| autodiscover.gt | autodiscover.ng | autodiscover.wf |
| autodiscover.gu | autodiscover.ni |                 |
| autodiscover.gv | autodiscover.nl |                 |
| autodiscover.gw | autodiscover.no |                 |
| autodiscover.gy | autodiscover.np |                 |
| autodiscover.hk | autodiscover.nr |                 |
| autodiscover.hn | autodiscover.nu |                 |
| autodiscover.hr | autodiscover.nz |                 |
| autodiscover.hu | autodiscover.om |                 |
| autodiscover.id | autodiscover.pa |                 |
| autodiscover.ie | autodiscover.pe |                 |
| autodiscover.il | autodiscover.pg |                 |
| autodiscover.im | autodiscover.ph |                 |
| autodiscover.in | autodiscover.pk |                 |
| autodiscover.io | autodiscover.pl |                 |
| autodiscover.iq | autodiscover.pr |                 |
| autodiscover.ir | autodiscover.pt |                 |
| autodiscover.is | autodiscover.py |                 |
| autodiscover.it | autodiscover.qa |                 |
| autodiscover.je | autodiscover.re |                 |
| autodiscover.jm | autodiscover.ro |                 |
| autodiscover.jo | autodiscover.rs |                 |
| autodiscover.jp | autodiscover.ru |                 |
| autodiscover.ke | autodiscover.rw |                 |
| autodiscover.kg | autodiscover.sa |                 |
| autodiscover.kh | autodiscover.sb |                 |
| autodiscover.ki | autodiscover.sc |                 |
| autodiscover.km | autodiscover.sd |                 |
| autodiscover.kn | autodiscover.sg |                 |
| autodiscover.kp | autodiscover.sh |                 |
| autodiscover.kr | autodiscover.si |                 |
| autodiscover.kw | autodiscover.sk |                 |
| autodiscover.ky | autodiscover.sl |                 |
| autodiscover.kz | autodiscover.sm |                 |
| autodiscover.la | autodiscover.sn |                 |
| autodiscover.lb | autodiscover.so |                 |
| autodiscover.lc | autodiscover.sr |                 |
| autodiscover.li | autodiscover.sx |                 |
| autodiscover.lk | autodiscover.sy |                 |
| autodiscover.lm | autodiscover.sz |                 |
| autodiscover.ln | autodiscover.td |                 |
| autodiscover.lo | autodiscover.te |                 |
| autodiscover.lr | autodiscover.tf |                 |
| autodiscover.ls | autodiscover.tg |                 |
| autodiscover.lv | autodiscover.th |                 |
| autodiscover.ly | autodiscover.tj |                 |
| autodiscover.ma | autodiscover.tk |                 |
| autodiscover.mc | autodiscover.tl |                 |
| autodiscover.md | autodiscover.tn |                 |
| autodiscover.me | autodiscover.to |                 |
| autodiscover.mg | autodiscover.tp |                 |
| autodiscover.mh | autodiscover.tr |                 |
| autodiscover.mi | autodiscover.tt |                 |
| autodiscover.mk | autodiscover.tv |                 |
| autodiscover.ml | autodiscover.tw |                 |
| autodiscover.mm | autodiscover.tz |                 |
| autodiscover.mn | autodiscover.ua |                 |
| autodiscover.mo | autodiscover.ug |                 |
| autodiscover.mp | autodiscover.uz |                 |
| autodiscover.mq | autodiscover.vc |                 |
| autodiscover.ms | autodiscover.ve |                 |
| autodiscover.mu | autodiscover.vg |                 |
| autodiscover.mv | autodiscover.vi |                 |
| autodiscover.mw | autodiscover.vu |                 |
| autodiscover.mx | autodiscover.wf |                 |
| autodiscover.my |                 |                 |
| autodiscover.mz |                 |                 |
| autodiscover.na |                 |                 |
| autodiscover.nc |                 |                 |
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BleepingComputer also knows of thirty-eight other domains registered since September 22nd whose owners are hidden behind privacy or WHOIS restrictions that were likely registered by Microsoft, researchers, or potentially threat actors.

The actual number of registered domains is likely far larger, as BleepingComputer has seen Microsoft register multiple autodiscover domains for the same TLD, such as autodiscover.com.es and autodiscover.org.es.

One domain, autodiscover.ch, has been registered since at least 2015 and uses microsoftonline.com as the DNS servers, but it is not clear who owns it.

While registering autodiscover.[tld] domains will block some of the leaks, Microsoft will need to issue fixes for the poor Autodiscover implementation in their Microsoft Outlook and Office 365 mail clients to resolve the issue further.

As other non-Microsoft applications also have faulty protocol implementations, Microsoft will also have to release guidance on how to properly create Autodiscover URLs so that credentials are not sent to untrustworthy domains.



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Lawrence Abrams is the owner and Editor in Chief of BleepingComputer.com.

Lawrence's area of expertise includes malware removal and computer forensics.

Lawrence Abrams is a co-author of the Winternals Defragmentation, Recovery, and

Administration Field Guide and the technical editor for Rootkits for Dummies.

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- (<https://www.bleepingcomputer.com/filedb/>)
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### COMMUNITY

- (<https://www.bleepingcomputer.com/forums/>)
- (<https://www.bleepingcomputer.com/forum-rules/>)
- (<https://www.bleepingcomputer.com/forums/t/730914/the-bleepingcomputer-official-discord-chat-server-come-join-the-fun/>)

### USEFUL RESOURCES

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