How To Track Malware Infrastructure - Identifying MatanBuchus Domains Through Hardcoded Certificate Values

By Matthew

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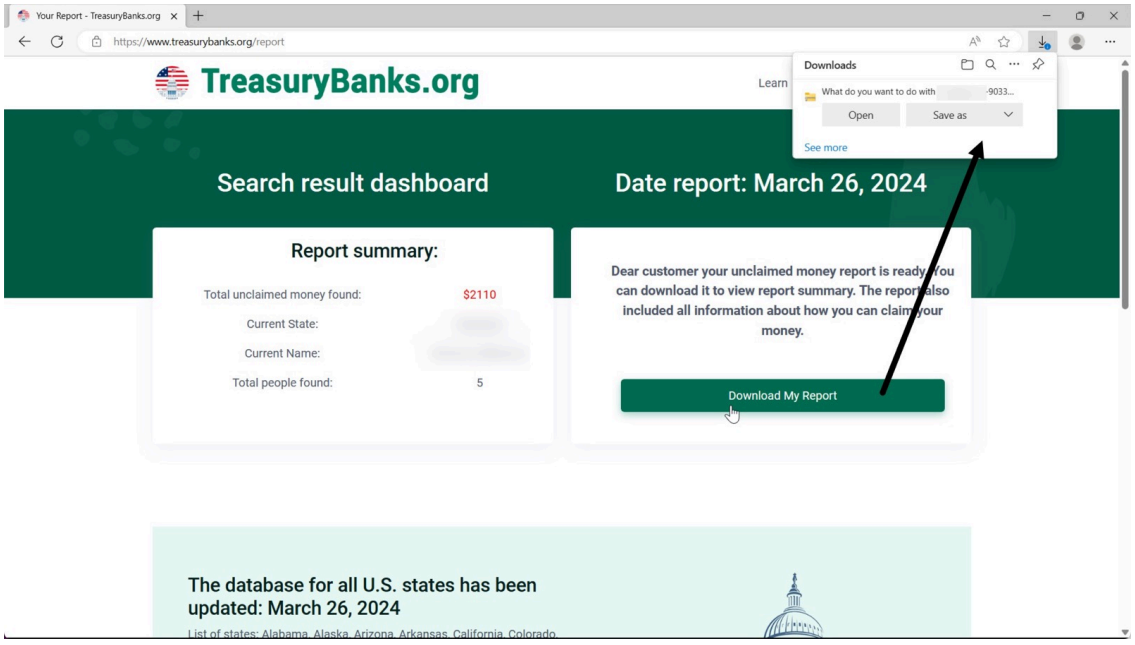
In this blog we will identify 6 malicious domains that are likely hosting MatanBuchus malware. We will identify these domains through the usage of hardcoded subdomains in the TLS Certificate of the initial shared domain.

After leveraging the hardcoded subdomains, we will leverage registration dates and certificate providers to hone in on our final results. Ultimately this will produce 6 domains sharing the same financial theme that was shared in the initial intel.

Initial Intelligence

This post is based on initial intelligence shared by @unit42_intel in an original post here.

In this post, Unit42 shared details of a `treasurybanks[.]org` domain used in malicious ads targeting users looking for funds recovery services.

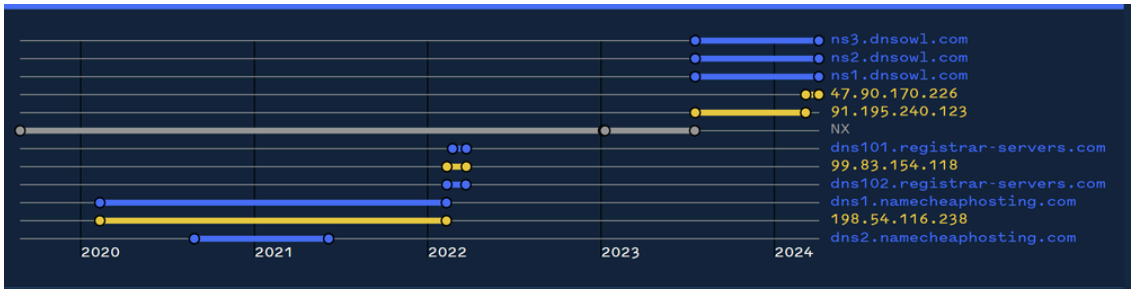


Review of First Historical Address

Since the initial indicator was a domain and not an IP address, we can use a passive dns tool like Validin to review indicators and history about the domain.

Our first step here is to look for historical IP resolutions which may point to similar domains hosted on the same servers.

Leveraging Validin for the initial search, we can see that the domain has recently resolved to `47.90.170[.]226` and `91.195.240[.]123`



Our next step was to review the historical records for these IP addresses and determine if they resolved to any similar-looking domains in a similar time period.

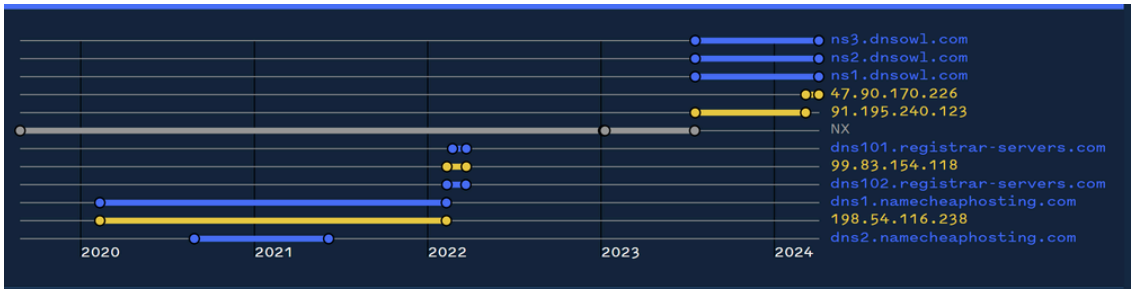
Reviewing the most recent resolved IP address of `47.90.170[.]226`, there are 19 domains that have been associated with this address. The most recent 5 domains are the original `treasurybanks[.]org` and the subdomains `www,get,download,file`.

The other domains here are from a much older time period and do not show any indications of being related to `treasurybanks[.]org`, so we decided to ignore these and come back later if other searches did not yield results.

Review of Second Historical Address

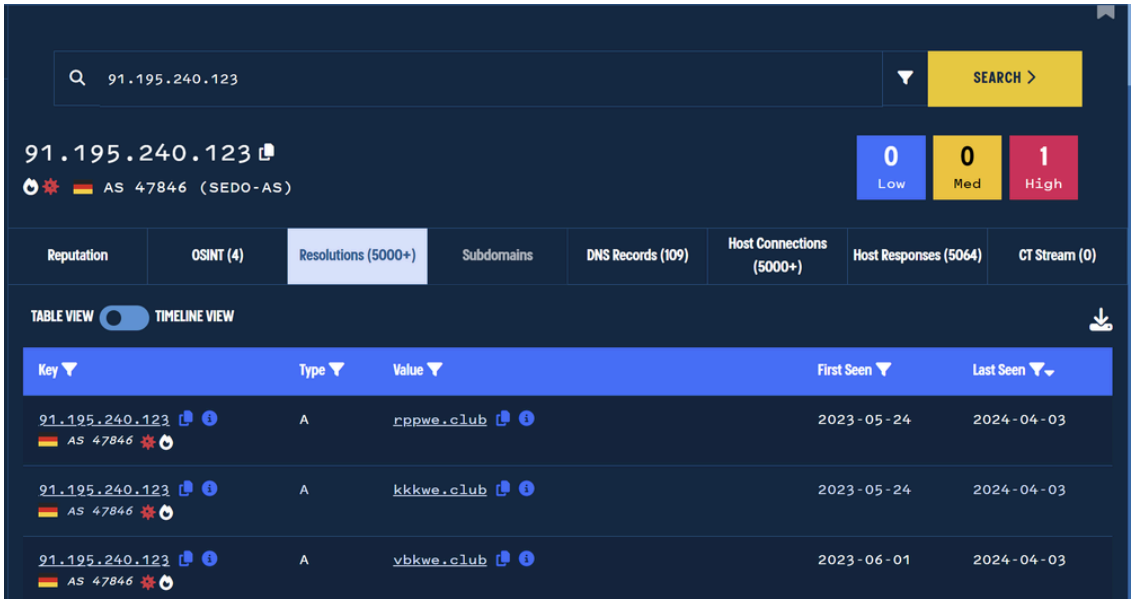
The second most recent resolved IP address for `treasurybanks[.]org` is `91.195.240[.]123`.

We can again pivot and investigate this IP address for similar domain records that may point us to similar sites.

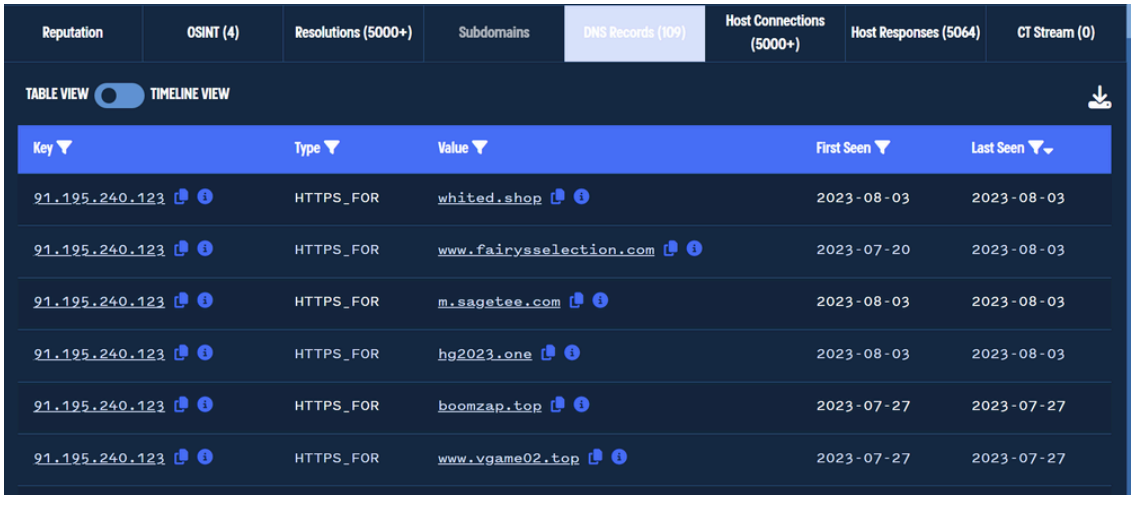


The address `91.195.240[.]123` has a huge number of past records, indicating that is likely a proxy or some kind of "middle" infrastructure shared amongst thousands of other sites.

Reviewing the historical records did not yield any useful results.

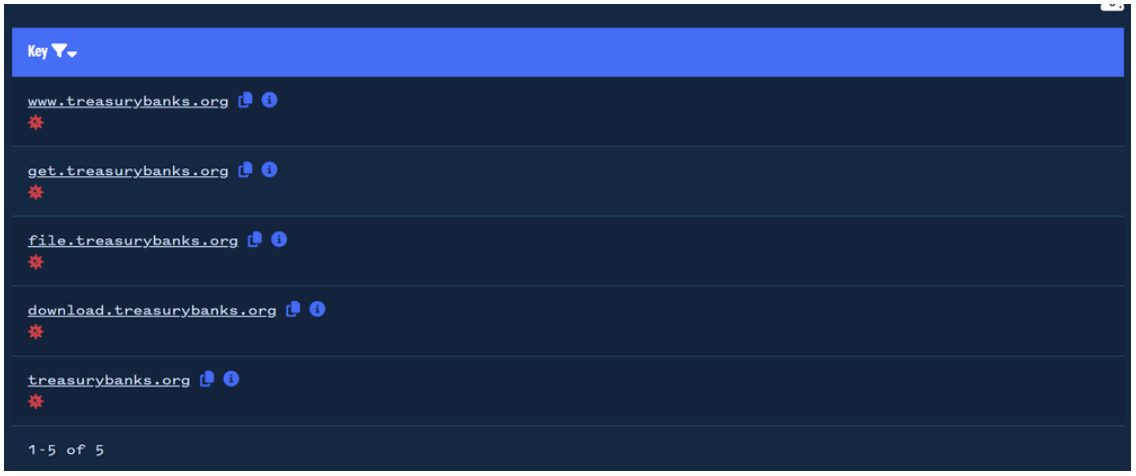


Reviewing the historical DNS records also did not yield any results for similar sites.



Finding a First Pivot Point

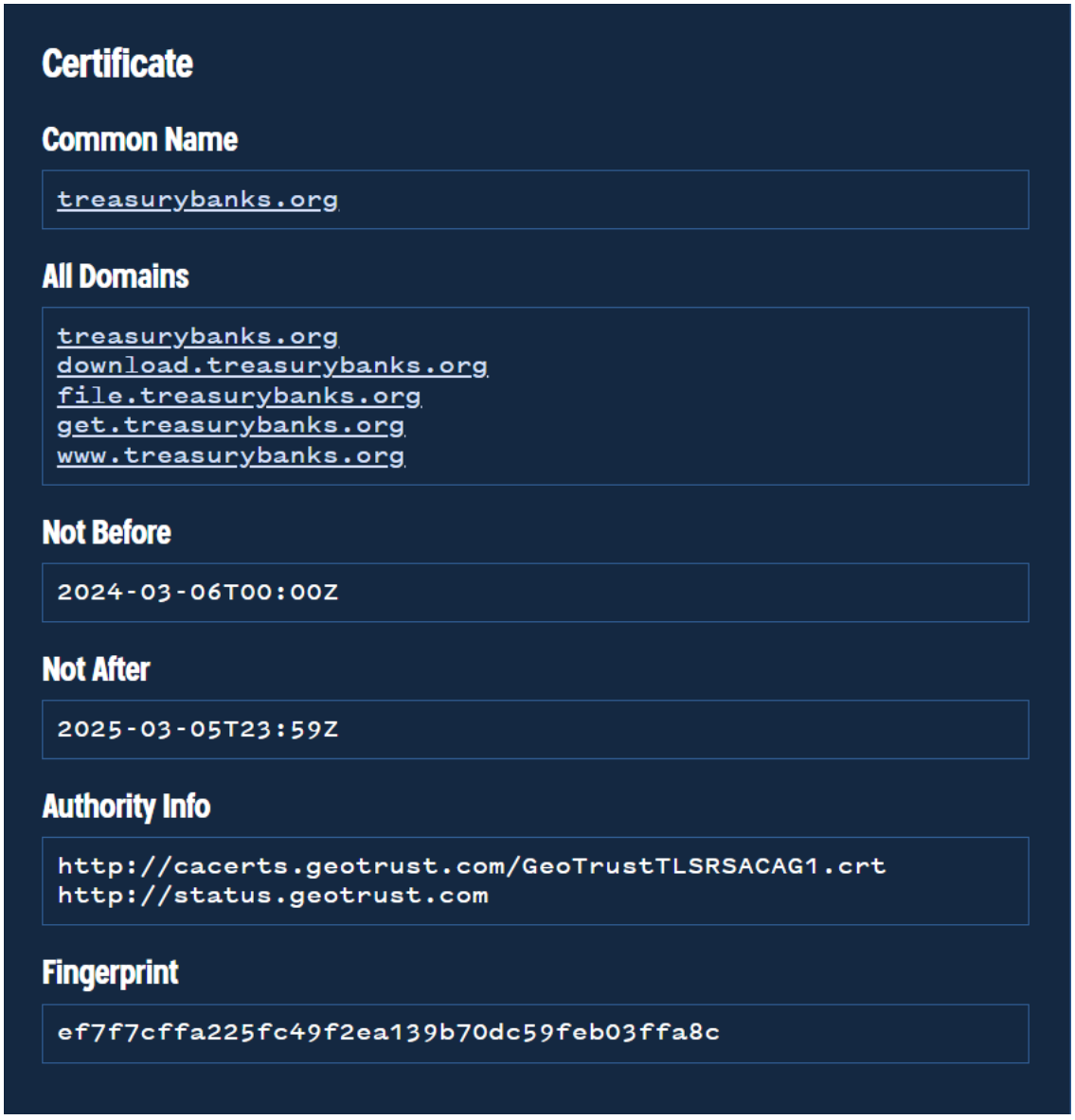
Attempts to pivot on the historical IP records did not yield any meaningful results, so we decided to return to the interesting subdomains that we observed on the initial `treasurybanks[.]org`.



If we inspect the Certificate history for the `treasurybanks[.]org` domain, we can see that these subdomains are hardcoded into the Certificate (this is in contrast to a typical wildcard certificate with something like `*.treasurybanks[.]org`

Since the subdomains are hardcoded, we decided to use them as a pivot point.

Of additional note here, is that the certificate leverages GeoTrust and was registered on `2024-03-06`. This information we can leverage as additional pivot points later.



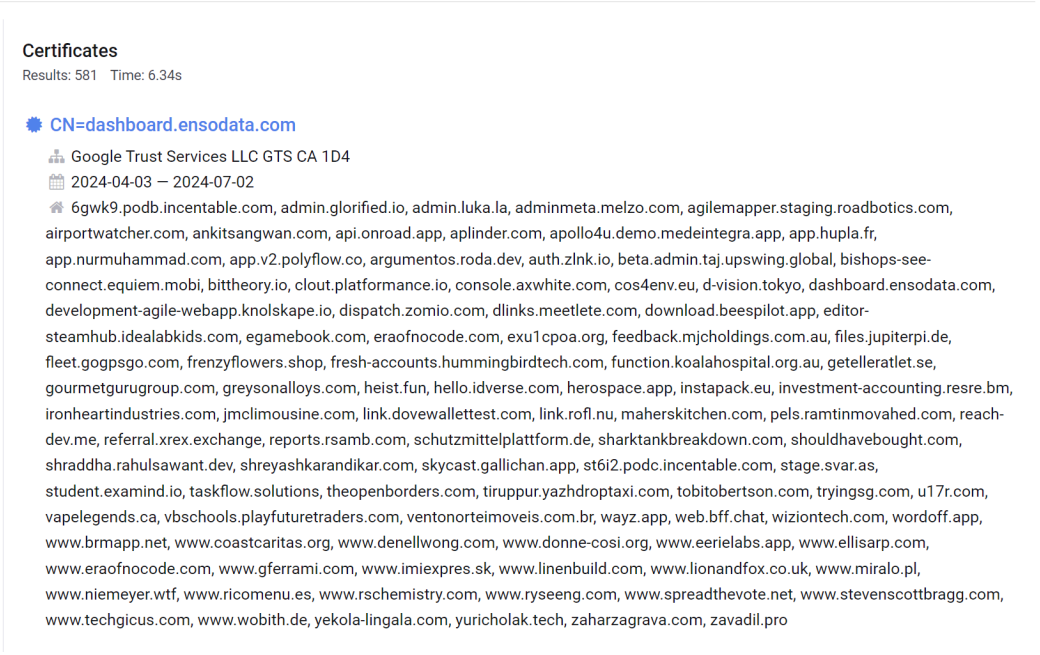
Pivoting on Subdomains In TLS Certificates

We can now attempt to leverage the following indicators to identify new domains.

- Hardcoded subdomains (www, file, get, download)
- Use of GeoTrust for Certificate signing
- Registration dates around March 2024

To perform the initial search for hardcoded subdomains, we leveraged Censys to search certificates with hardcoded values beginning with the previously identified subdomains.

The initial results for this search returned 581 results. Many of which did not look anything like the original certificate for `treasurybanks[.]org`.

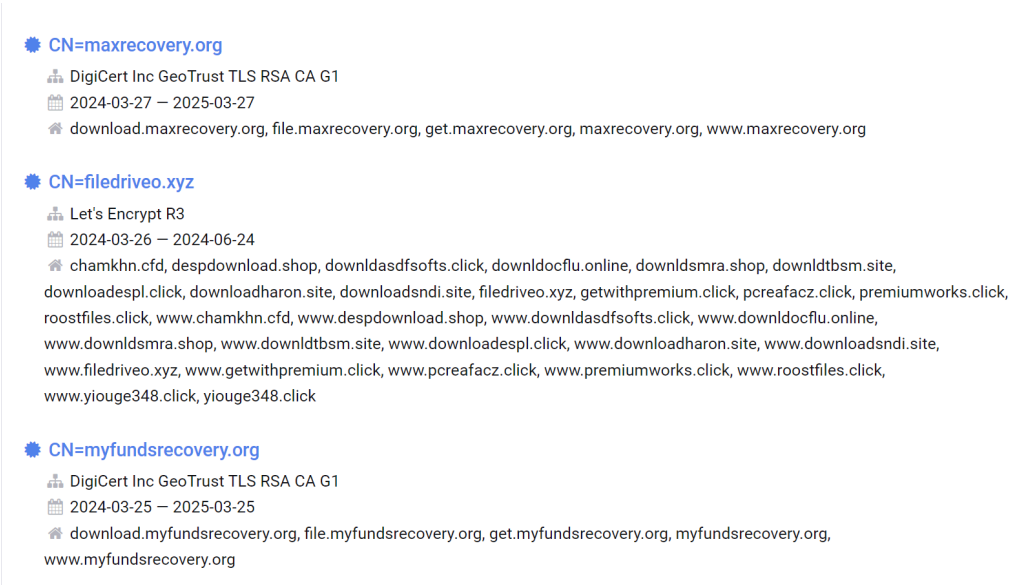


Certificates
Results: 581 Time: 6.34s

CN=dashboard.ensodata.com
Google Trust Services LLC GTS CA 1D4
2024-04-03 — 2024-07-02
6gwk9.podb.incentable.com, admin.glorified.io, admin.luka.la, adminmeta.melzo.com, agilemapper.staging.roadbotics.com, airportwatcher.com, ankitsangwan.com, api.onroad.app, aplinder.com, apollo4u.demo.medeintegra.app, app.hupla.fr, app.nurmuhammad.com, app.v2.polyflow.co, argumentos.roda.dev, auth.zlnk.io, beta.admin.taj.upswing.global, bishops-see-connect.equiem.mobi, bittheory.io, clout.platformance.io, console.axwhite.com, cos4env.eu, d-vision.tokyo, dashboard.ensodata.com, development-agile-webapp.knolskape.io, dispatch.zomio.com, dlinks.meetlete.com, download.beespilot.app, editor-steamhub.idealabkids.com, egamebook.com, eraofnocode.com, exu1cpoa.org, feedback.mjcholdings.com.au, files.jupiterpi.de, fleet.gogpsgo.com, frenzyflowers.shop, fresh-accounts.hummingbirdtech.com, function.koalahospital.org.au, getelleratlet.se, gourmetgurugroup.com, greysonalloys.com, heist.fun, hello.idverse.com, herospace.app, instapack.eu, investment-accounting.resre.bm, ironheartindustries.com, jmclimousine.com, link.dovewallettest.com, link.rofl.nu, maherskitchen.com, pels.ramtinmovahed.com, reach-dev.me, referral.xrex.exchange, reports.rsamb.com, schutzmittelplattform.de, sharktankbreakdown.com, shouldhavebought.com, shraddha.rahulsawant.dev, shreyashkarandikar.com, skycast.gallichan.app, st6i2.podc.incentable.com, stage.svar.as, student.examind.io, taskflow.solutions, theopenborders.com, tiruppur.yazhdroptaxi.com, tobitobertson.com, tryingsg.com, u17r.com, vapelegends.ca, vbschools.playfuturetraders.com, ventonorteimoveis.com.br, wayz.app, web.bff.chat, wiziontech.com, wordoff.app, www.brmapp.net, www.coastcaritas.org, www.denellwong.com, www.donne-cosi.org, www.eerielabs.app, www.ellisarp.com, www.eraofnocode.com, www.gferrami.com, www.imiexpres.sk, www.linenbuild.com, www.lionandfox.co.uk, www.miralo.pl, www.niemeyer.wtf, www.ricomenu.es, www.rschemistry.com, www.ryseeng.com, www.spreadthevote.net, www.stevenscottbragg.com, www.techgicus.com, www.wobith.de, yekola-lingala.com, yuricholak.tech, zaharzagrava.com, zavadil.pro

However after scrolling slightly through the first page of results, we can see two certificates (`maxrecovery[.]org` and `myfundsrecovery[.]org`) that look extremely similar to our initial `treasurybanks[.]org`.

We can also note that both of these certificates are registered with GeoTrust and were registered in March 2024.



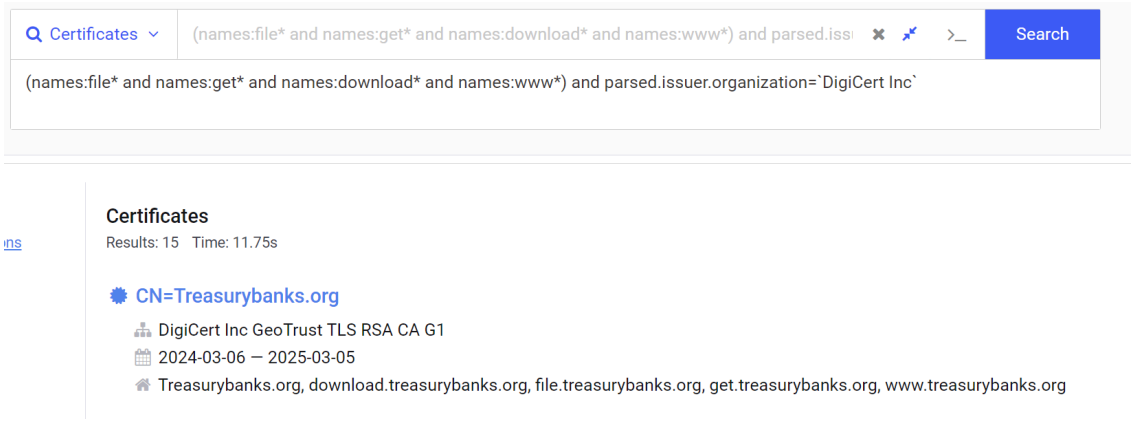
CN=maxrecovery.org
DigiCert Inc GeoTrust TLS RSA CA G1
2024-03-27 — 2025-03-27
download.maxrecovery.org, file.maxrecovery.org, get.maxrecovery.org, maxrecovery.org, www.maxrecovery.org

CN=filedriveo.xyz
Let's Encrypt R3
2024-03-26 — 2024-06-24
chamkhn.cfd, despdownload.shop, downldasdfsofts.click, downldocflu.online, downldsmra.shop, downldtbsm.site, downloadespl.click, downloadharon.site, downloadsndi.site, filedriveo.xyz, getwithpremium.click, pcreafacz.click, premiumworks.click, roostfiles.click, www.chamkhn.cfd, www.despdownload.shop, www.downldasdfsofts.click, www.downldocflu.online, www.downldsmra.shop, www.downldtbsm.site, www.downloadespl.click, www.downloadharon.site, www.downloadsndi.site, www.filedriveo.xyz, www.getwithpremium.click, www.pcreafacz.click, www.premiumworks.click, www.roostfiles.click, www.yiouge348.click, yiouge348.click

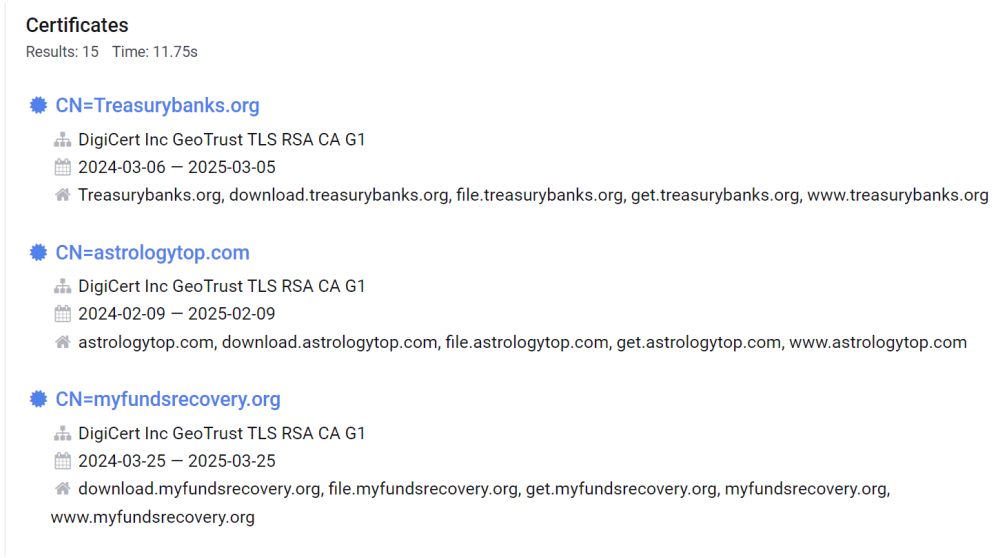
CN=myfundsrecovery.org
DigiCert Inc GeoTrust TLS RSA CA G1
2024-03-25 — 2025-03-25
download.myfundsrecovery.org, file.myfundsrecovery.org, get.myfundsrecovery.org, myfundsrecovery.org, www.myfundsrecovery.org

Applying Filters On GeoTrust/Digicert

To hone in on the results, we can add a filter for Digicert (owner of GeoTrust) certificates. This narrows us down to 15 related certificates.

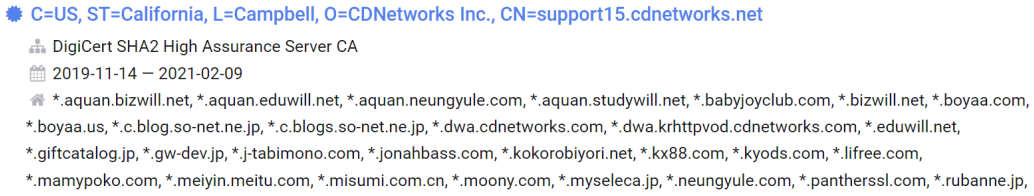


Some of these look exactly like our original domain, indicating that we are getting closer to desirable search results.



However if we scroll down to the end of our 15 results, there are still multiple hits for certificates that don't look anything like our `treasurybanks[.]org`

We can also see that these certificates were registered years ago and are now expired, so we can leverage this to filter them out.

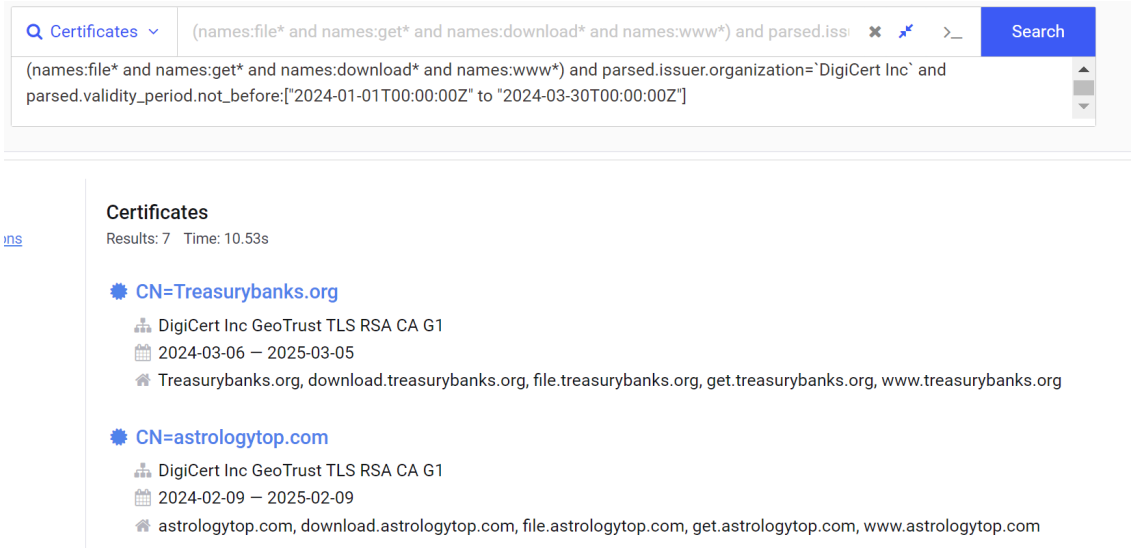


Applying Time-Based Filters

To filter out the 8 undesired results, we can either apply a filter to ignore expired certificates (`and not labels:expired`) or apply a new filter specifying that we only want results registered in 2024.

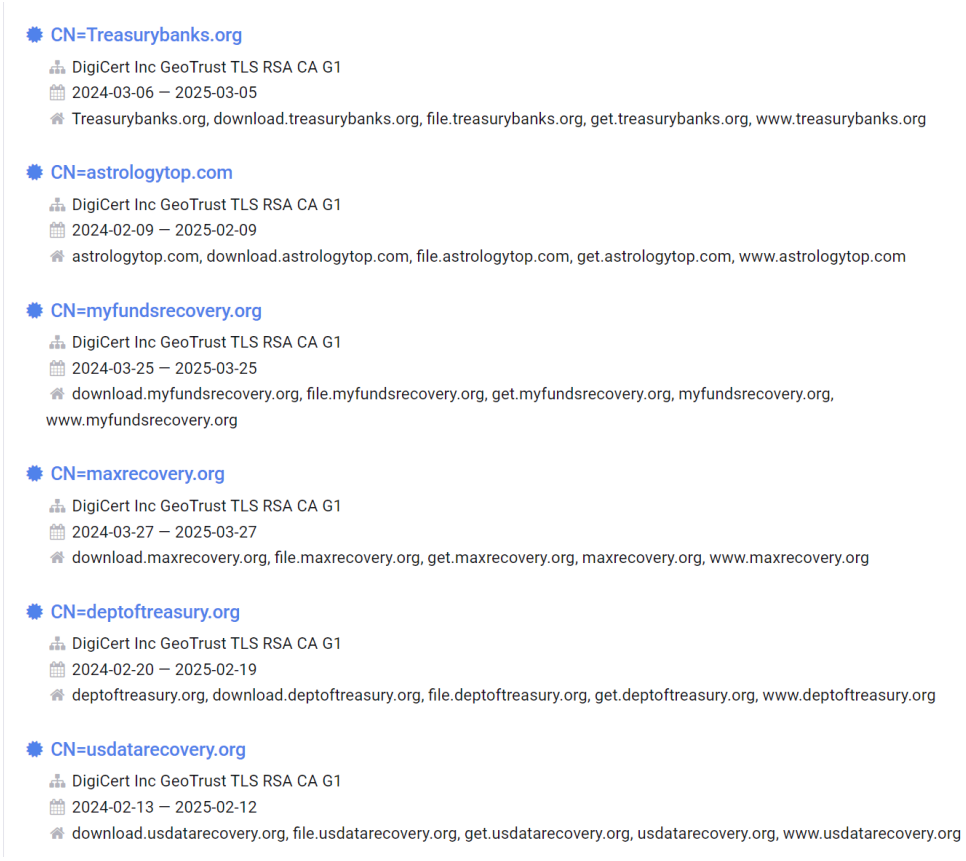
We chose to apply the second option, allowing only for certificates registered in 2024. We can see this applied to the `parsed.validity_period.not_before` field, specifying a date range of 2024-01-01 to 2024-03-30.

After applying these filters we are left with 7 results.



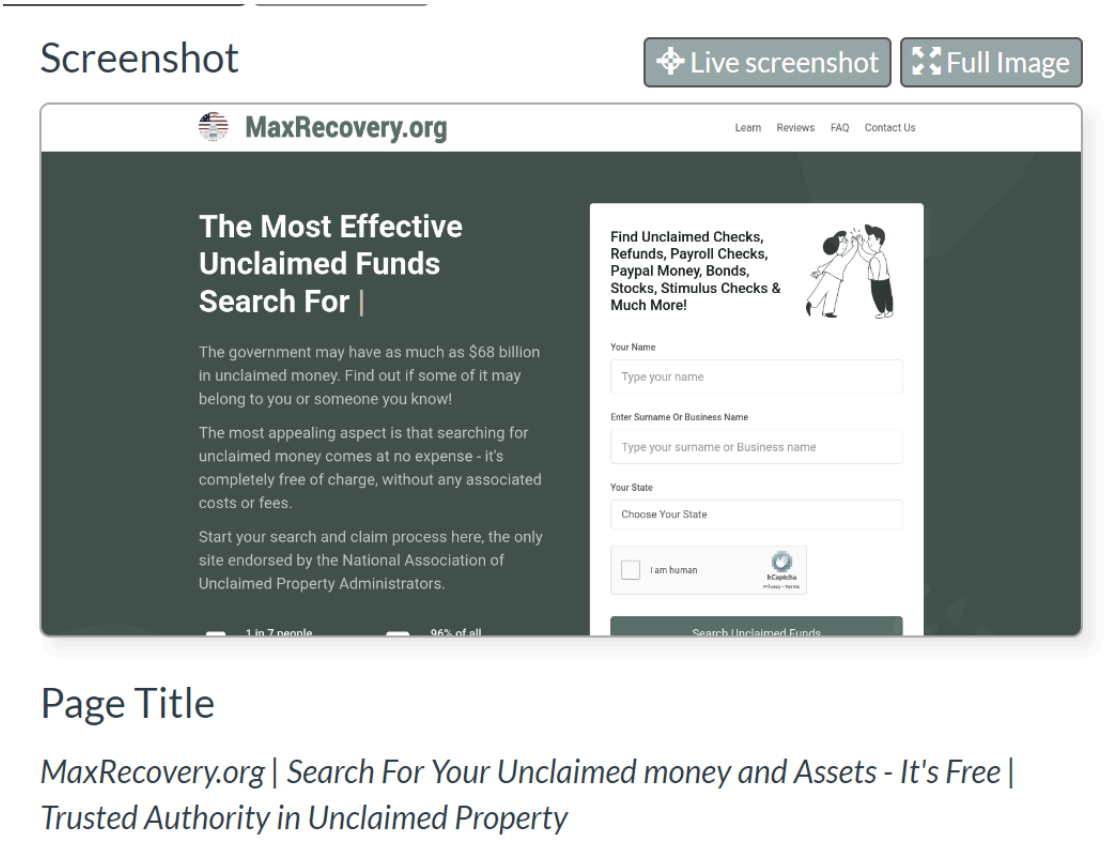
Of particular interest here, is that our final 7 results all

- follow the same subdomain structure
- Are registered in March 2024
- Mostly follow the same financial theme

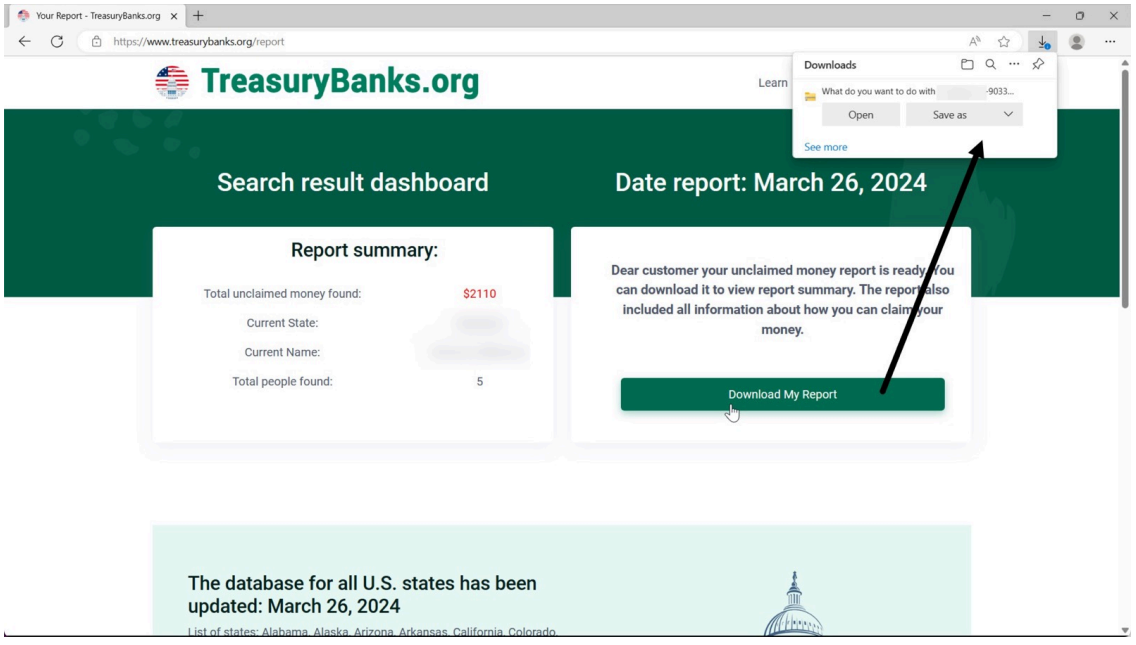


Leveraging urlscan.io to search on these domains, we can see extremely similar structure to that initially reported by Unit42.

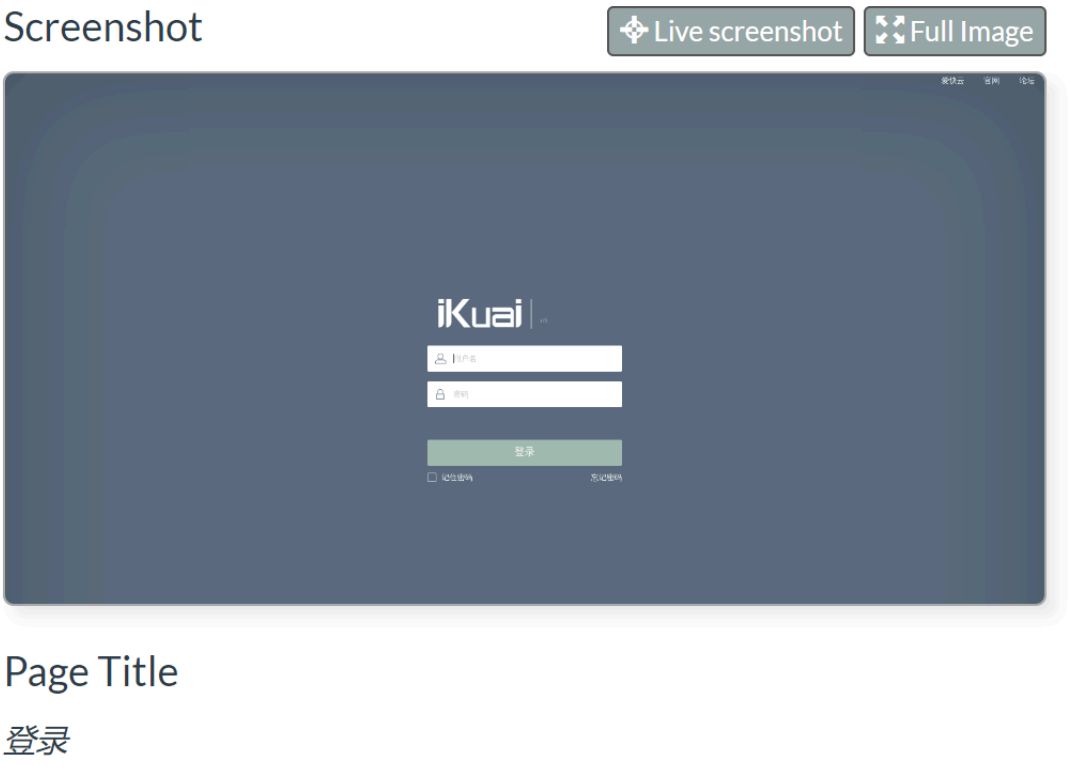
Here is a screenshot from our newly identified domain `maxrecovery[.]org`



and here is a screenshot from the initial reported domain of `treasurybanks[.]org`



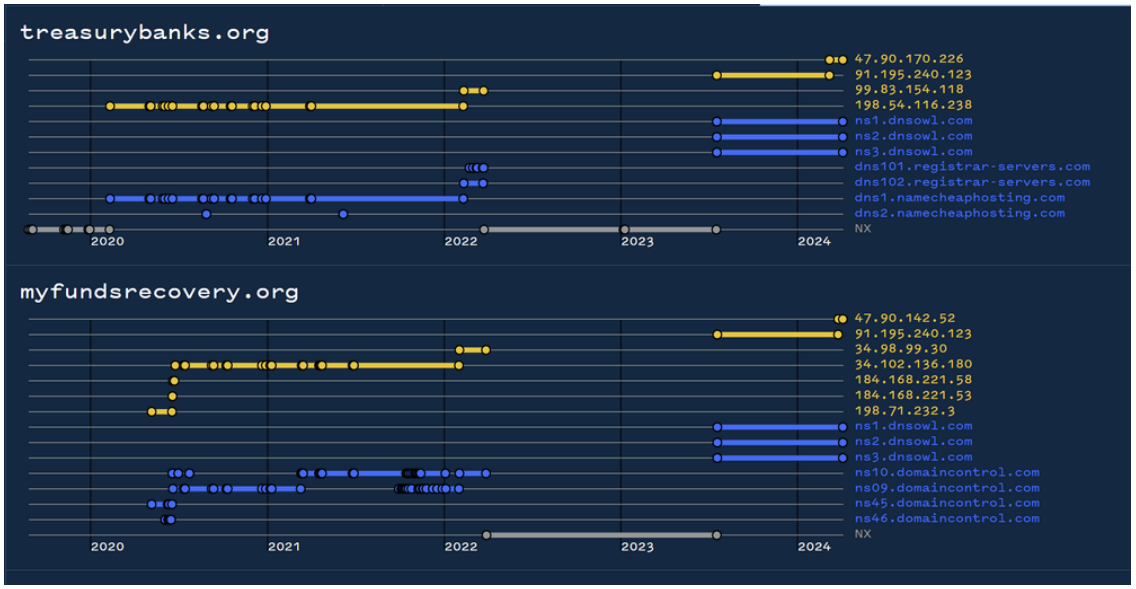
Astrologytop[.]com seems to be completely different and maybe a control panel or something completely different in nature.



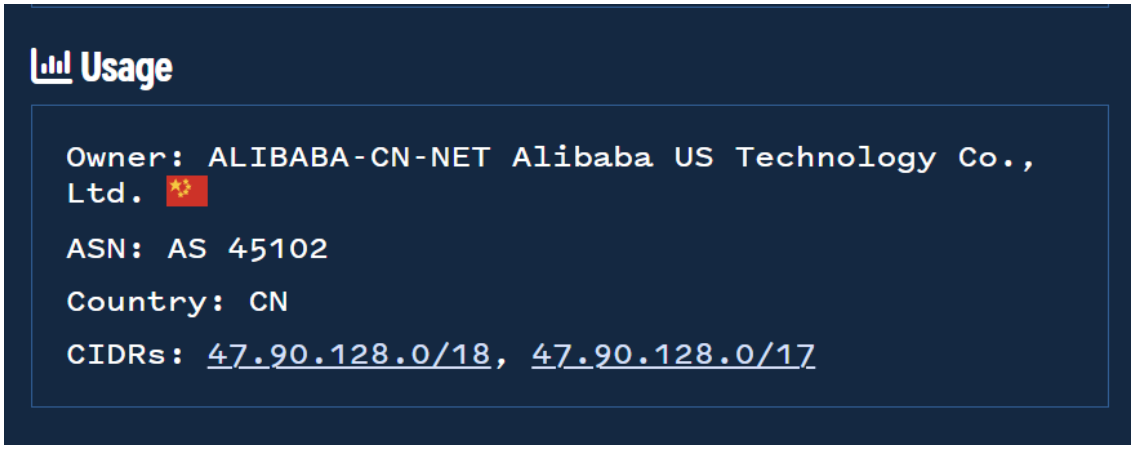
Bulk Review of Domain History

Returning to Validin with our new list of domains, we can perform a bulk search to look for commonalities.

This reveals that many of the results have previously resolved to `91.195.240[.]123`, demonstrating an additional link in their history.

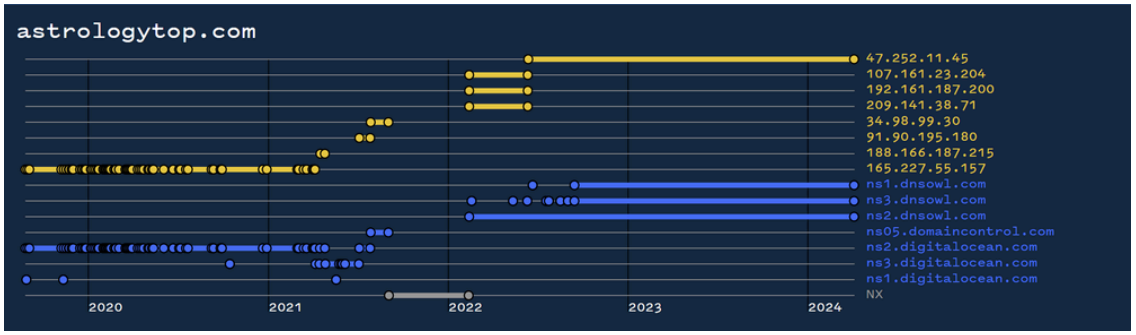


We can also note that the most recent resolved addresses are different but all resolve to ranges owned by Alibaba. Indicating another commonality.



One slight exception to this pattern is the `astrologytop[.]com` domain, which currently resolves to an Alibaba IP but does not share the same history as the other domains.

We were unable to confirm for sure whether this domain was definitely related. However there are enough suspicious indicators to suggest that it might be.



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Final Domains

```
High Confidence
treasurybanks[.]org
myfundsrecovery[.]org
maxrecovery[.]org
deptoftreasury[.]org
usdatarecovery[.]org

Lower Confidence
```

```
astrologytop[.]com

All Results
Treasurybanks[.]org
download[.]treasurybanks[.]org
file[.]treasurybanks[.]org
get[.]treasurybanks[.]org
www[.]treasurybanks[.]org
astrologytop[.]com
download[.]astrologytop[.]com
file[.]astrologytop[.]com
get[.]astrologytop[.]com
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get[.]usdatarecovery[.]org
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Source: https://www.embeeresearch.io/tls-certificates-for-threat-intel-dns/