

New School Information Gathering

Chris Gates

<http://carnal0wnage.blogspot.com>

<http://www.learnsecurityonline.com>



Who Am I?

- Penetration Tester
- LearnSecurityOnline.com
- Security Blogger
- EthicalHacker.net columnist
- Alphabet Soup if you care



Carnal Overage

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Standard Disclaimer

The standard this is me talking and not my employer disclaimer applies

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EX-11-749 CRR



Agenda

- New School?
- Open Source Intelligence Gathering (OSINT)
- FierceDNS
- SEAT/Goolag
- Google Mail Harvesters
- Metagoofil
- Online Tools
 - ServerSniff/DomainTools/CentralOps/Clez.net/Robtex/Spoke
- Maltego

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Premises

- Couple of premises to frame the talk
 - Black box approach to info gathering, meaning the customer wants you to find everything about them you can via “open source” methods.
 - Client side and social engineering attacks are going to be used, therefore its critical we gather that client information (emails & phone numbers) for the pentest.

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This is what you get:

baytsp.com

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Questions

- WTF is baytsp.com?
- How many web servers?
- How many mail servers?
- How many name servers?
- IP range/netblocks?
- Location(s)?
- Usernames, phone numbers, email addresses?

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New School?

- New School, just a “new” way of looking at Information Gathering, less just discovering network blocks with whois and more take a “full spectrum” look at your target.
- OSINT, Open Source Intelligence
 - Out on the net for everyone to find, if you know what to look for
 - Domain Names
 - Files containing useful information
 - Email addresses
 - Website Source

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OSINT

- Generally no direct contact with victim's servers OR no non-standard traffic directed toward victim
- End Result?
 - Organization's net blocks, external servers IPs and domain names, internal IP ranges, emails to send phishing attacks to, phone numbers to call, trust relationships with other organizations, & other relevant information for your audit and hopefully identifying exploitable flaws in the target's network

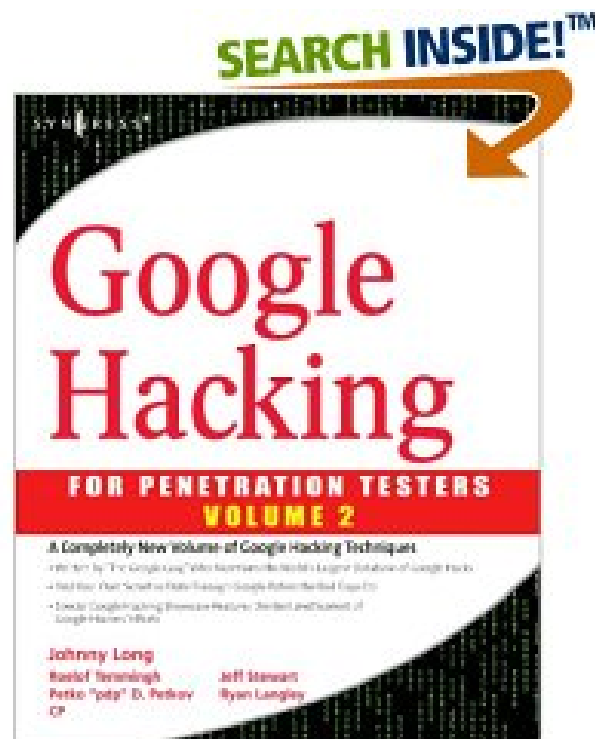
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Isn't that what Google is for?

- Yeah kinda, Google-fu is important but we're not going to talk much about Google hacking, go read the book.



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Verify Web Presence

BayTSP - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://baytsp.com/

The Ethical Hacker... https://www.googl...

track.secure.protect.

Solutions Industry Focus Press Room About Us

SOLUTIONS FOR DIGITAL RIGHTS HOLDERS

Internet Partners Client Solutions Legal & Law Enforcement

Latest News


Mark Ishikawa
CEO BAYTSP

Nikkei Electronics, 8/19/08: BayTSP offers service that monitors one million minutes of online video daily for copyright infringement, covering the top 12 video sharing sites.

MarketWatch, 8/18/08: BayTSP Content Authentication Platform increases capacity;

Movies Secure your latest releases from pirate distribution with BayTSP.

Television Millions will illegally upload your latest and greatest in television. Protect your IP.

Music We provide the services to stop the distribution of your music.

Software Software applications are downloaded illegally every second. Protect your profits.

Publishing Scanned books, ebooks, and audio books are being downloaded everyday.

Received a take down notice from us?
[Click here »](#)

What we do at BayTSP
"Tracking-Security-Protection" for your digital assets.

Read the 2007 Internet Piracy Review
[Read now »](#)

Request A Demo

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Verify Web Presence

BayTSP is an innovator in digital copyright, image, trademark, music and text protection. Located in the heart of Silicon Valley, BayTSP offers a revolutionary way for digital content owners to track down their valuable online property, in order to effectively deter its theft and misuse.

<http://www.aboutus.org/Baytsp.com>

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OSINT: Information Gathering & Domain Name Search

- Whois info, NS & AS Reports
- Search using target domain name
 - Target.com
 - and subdomain name
 - Vulnerable.target.com
- Who's handling mail, DNS, net blocks, web hosting, etc

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OSINT: Information Gathering & Key Words

- Use that google-fu!
 - Password
 - Login
 - Target specific key words
 - Database/Secret/yak yak
 - Google dorks
 - Use SEAT/Goolag to audit a specific domain

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OSINT: Information Gathering & File Search

- We're Looking for
 - Network diagrams (.vsd, .jpg, .gif)
 - Databases (.mdb)
 - Papers & documents (.doc, .pdf, .sdw)
 - Presentations (.ppt, .odp)
 - Spreadsheets (.xls, .ods, .sdc)
 - Configuration files (.txt, .rft)
- Thanks metagoofil!

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OSINT: Information Gathering & Email addresses

- Information Gathering & Email addresses
 - Email Harvesting scripts and frameworks
- Information Gathering & Cached Data/Links
 - Archive.org, waybackmachine, Google
- Information Gathering & Source Code
 - Spider the site, look at html source and comments, file paths, file names, scripts used on the site

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Tools of the Trade

Some, not all, plenty of others

Tools grouped by category and less
by an actual order of doing things or
methodology

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Fierce DNS

- <http://ha.ckers.org/fierce/>
- By Rsnake from ha.ckers.org
- “It is meant specifically to locate likely targets both inside and outside a corporate network.”
- Tries your standard DNS tricks but also does some bruteforcing of domain names and tries to throw some intelligence into the searches.
- **Bruteforce only as good as your wordlist.**



Fierce DNS

- First it queries your DNS for the DNS servers of the target. It then switches to using the target's DNS server.
- Fierce then attempts to dump the SOA records for the domain in the very slim hope that the DNS server that your target uses may be misconfigured (attempts a zone transfer).*
- Once that fails (because it almost always will) it attempts to "guess" names that are common amongst a lot of different companies (hosts file).



Fierce DNS

- Next, if it finds anything on any IP address it will scan up and down a set amount looking for anything else with the same domain name in it using reverse lookups .
- If it finds anything on any of those it will recursively scan until it doesn't find any more.

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Fierce DNS

```
cg@WPAD:~/evil/enumeration/dns/fierceDNS$ perl fierce.pl -dns baytsp.com
```

DNS Servers for baytsp.com:

```
ns1.baytsp.net
ns13.zoneedit.com
ns2.baytsp.net
```

Trying zone transfer first...

```
Testing 216.133.204.226
Request timed out or transfer not allowed.
Testing 66.223.40.121
Request timed out or transfer not allowed.
Testing 216.132.49.229
Request timed out or transfer not allowed.
```

Unsuccessful in zone transfer (it was worth a shot)

Okay, trying the good old fashioned way... brute force

Checking for wildcard DNS...

Nope. Good.

Now performing 3149 test(s)...

```
216.133.204.235 dmz.baytsp.com
216.133.204.231 bayreports.baytsp.com
216.133.204.229 ftp.baytsp.com
216.133.204.224 dmz.baytsp.com
216.133.204.225 baytsp-gw.baytsp.com
216.133.204.232 cat-3000.baytsp.com
216.133.204.233 cims4.baytsp.com
216.133.204.234 dmz.baytsp.com
216.133.204.236 dmz.baytsp.com
216.133.204.239 dmz.baytsp.com
216.133.204.240 tc2.baytsp.com
216.133.204.241 dmz.baytsp.com
```

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Fierce DNS

```
216.133.204.246 dmz.baytsp.com
216.133.204.247 dmz.baytsp.com
216.133.204.248 dmz.baytsp.com
216.133.204.249 dmz.baytsp.com
216.133.204.250 dmz.baytsp.com
216.133.204.251 dmz.baytsp.com
216.133.204.252 dmz.baytsp.com
216.133.204.253 dmz.baytsp.com
216.133.204.254 dmz.baytsp.com
216.133.204.255 dmz.baytsp.com
216.133.204.240 demo.baytsp.com
216.133.204.229 dl.baytsp.com
216.133.204.227 mail.baytsp.com
216.133.221.24 pop.baytsp.com
216.132.49.228 vpn.baytsp.com
206.135.194.198 w3.baytsp.com
216.133.221.15 webmail.baytsp.com
68.178.254.204 www.baytsp.com
68.178.254.204 .baytsp.com
```

Subnets found (may want to probe here using nmap or unicornscan):

```
206.135.194.0-255 : 1 hostnames found.
216.132.49.0-255 : 1 hostnames found.
216.133.204.0-255 : 29 hostnames found.
216.133.221.0-255 : 2 hostnames found.
68.178.254.0-255 : 2 hostnames found.
```

Done with Fierce scan: <http://ha.ckers.org/fierce/>
Found 35 entries.

Have a nice day.

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Search Engine Tools

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EX-114-1049 CRR



SEAT (Search Engine Assessment Tool)

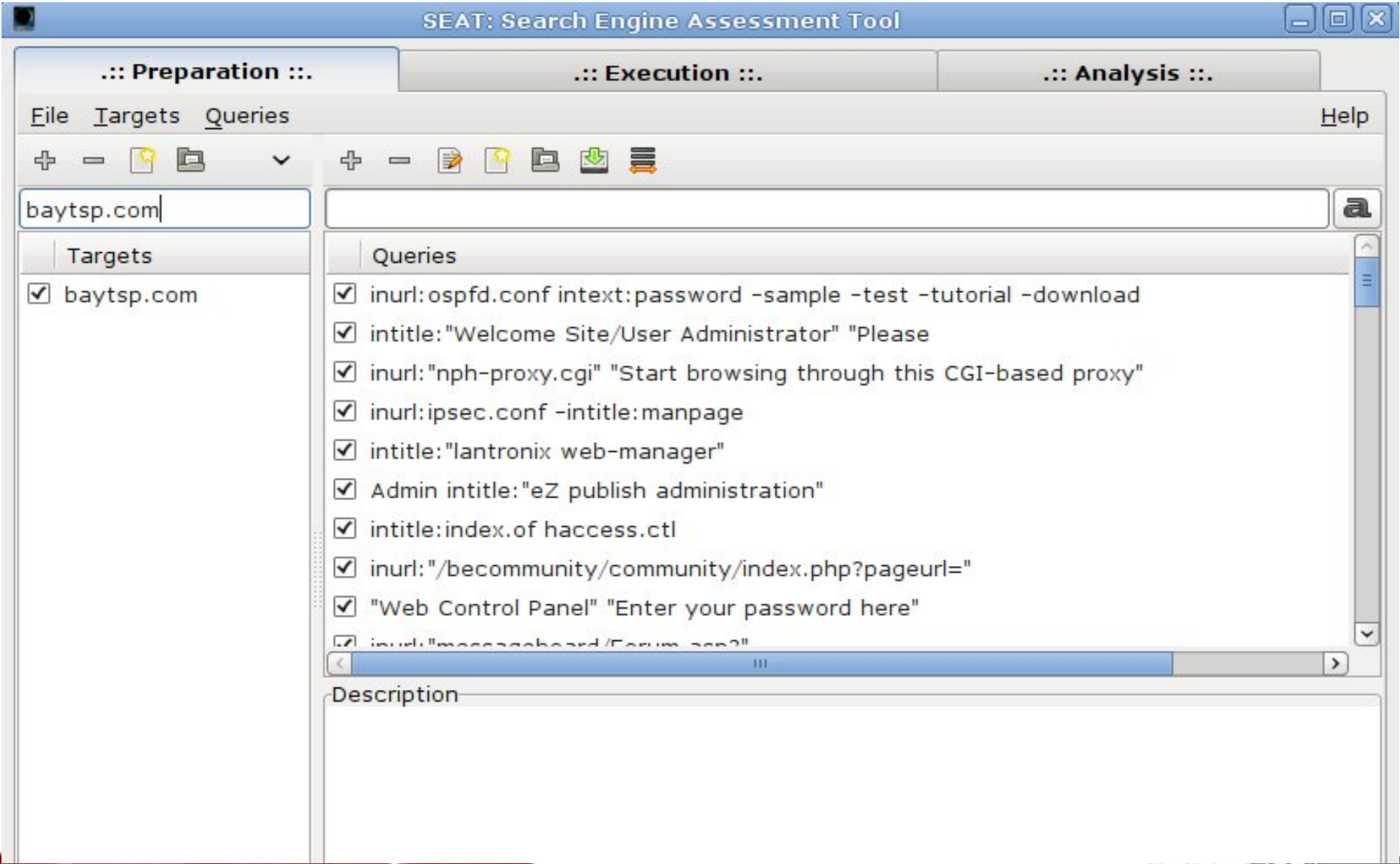
- By Midnight Research Labs
- <http://midnightresearch.com/projects/search-engine-assessment-tool/>
- “SEAT uses information stored in search engine databases, cache repositories, and other public resources to scan a site for potential vulnerabilities. It’s multi-threaded, multi-database, and multi-search-engine capabilities permit easy navigation through vast amounts of information with a goal of system security assessment.”
- Think automated GHDB on steroids ☺

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SEAT (Search Engine Assessment Tool)



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SEAT (Search Engine Assessment Tool)

SEAT: Search Engine Assessment Tool

Preparation

Execution

Analysis

FileTargetsQueriesSearch EnginesMinedHelp

Targets

Queries

Search Engines

baytsp.com

inurl:inurl:ipsec.secrets -history -bugs

index.of.secure

AltaVista

AllTheWeb

MinedResults

Statistics

http://av.rds.yahoo.com/_ylt=A0geunb0_N1IhBwBNypVDqMX;_ylu=

http://av.rds.yahoo.com/_ylt=A0geunb0_N1IhBwBNipVDqMX;_ylu=

http://av.rds.yahoo.com/_ylt=A0geunbGBd5IciABM0ZVDqMX;_ylu=

Hits: 4

Mined: 0

Results: 3

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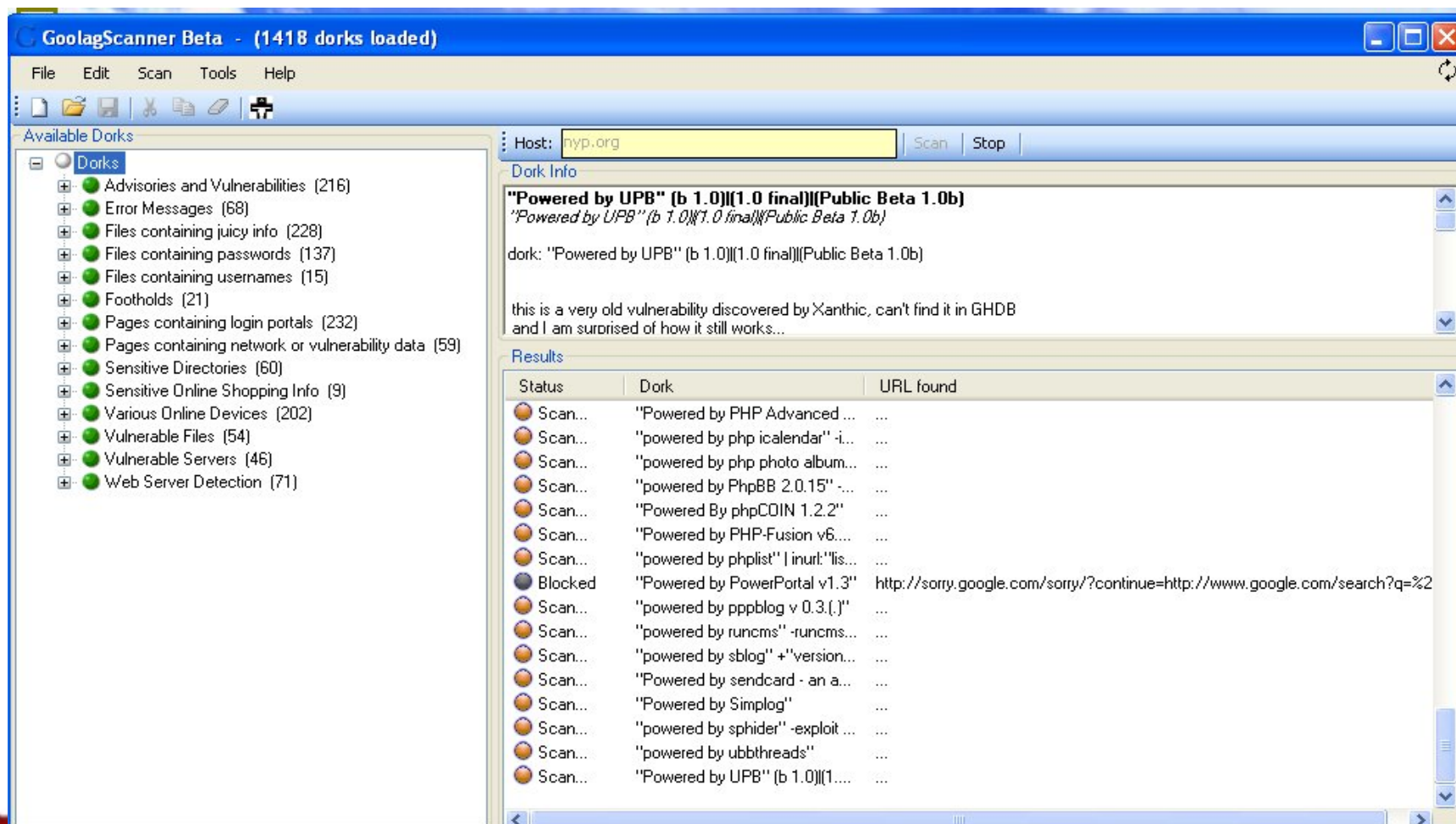
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Goolag

- Cult of Dead Cow's Goolag
- <http://www.goolag.org/download.html>



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Email Harvesting

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Google Mail Harvesters

- Goog-mail.py
- theHarvester.py
- There are plenty others
- Consider changing the regex to search for different @ variations: [at] <at> (at)

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Google Mail Harvesters

- Goog-mail.py

```
cg@WPAD:~/evil/enumeration/google$ python goog-mail.py baytsp.com
```

```
+++++  
+ Google Web & Group Results:  
+++++
```

```
copyright-compliance@baytsp.com  
VIACOM@baytsp.com  
info@baytsp.com  
se...@baytsp.com  
ellio...@baytsp.com  
...paramount-pictures@baytsp.com  
jimg@baytsp.com  
andr...@baytsp.com  
eve...@baytsp.com  
YaKdnWAJN8-V-8vdRVn...@baytsp.com  
seanr@baytsp.com  
ma...@baytsp.com  
compliance@baytsp.com
```

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Google Mail Harvesters

- theHarvester.py
- <http://www.edge-security.com/theHarvester.php>

```
cg@WPAD:~/evil/enumeration/google/theHarvester$ python theHarvester.py -d baytsp.com -l 1000 -b google
```

```
*****
*TheHarvester Ver. 1.4          *
*Coded by laramies             *
*Edge-Security Research        *
*cmartorella@edge-security.com *
*****
```

```
Searching for baytsp.com in google :
```

```
=====
```

```
Total results: 4410
Limit: 1000
Searching results: 0
Searching results: 100
Searching results: 200
```

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Google Mail Harvesters

encontreGoogleharvester results:

marki@baytsp.com
evelyn@baytsp.com
VIACOM@baytsp.com
compliance@baytsp.com
investor@baytsp.com
dmca@baytsp.com
andreac@baytsp.com
copyright-compliance@baytsp.com
elliottk@baytsp.com
W_6dnX2lwqTwt8_dRVn-hQ@baytsp.com
seanr@baytsp.com
noc@baytsp.com
paramount-pictures@baytsp.com
info@baytsp.com
BoGdnd2cesf37x7eRVn-tA@baytsp.com
baytsp.com
QZ0dnYUwQpCYmPPd4p2dnA@baytsp.com
...paramount-pictures@baytsp.com
jimg@baytsp.com
ktWdnQ9AD6NnU0HeRVn-pQ@baytsp.com
Paramount.comlawrencel@baytsp.com
steves@baytsp.com
sarahb@baytsp.com
tracieg@baytsp.com
Marki@baytsp.com

C a r

Total accounts: 25

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Document Metadata Extraction

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2014-11-10 10:45 AM



Metagoofil

- Meta-what???
- MetaGoofil - Metadata analyzer, information gathering tool.
- Created by Christian Martorella of Edge Security.
- <http://www.edge-security.com/metagoofil.php>
- “Metagoofil is an information gathering tool designed for extracting metadata of public documents (pdf,doc,xls,ppt,odp,ods) available in the target/victim websites.

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Metagoofil

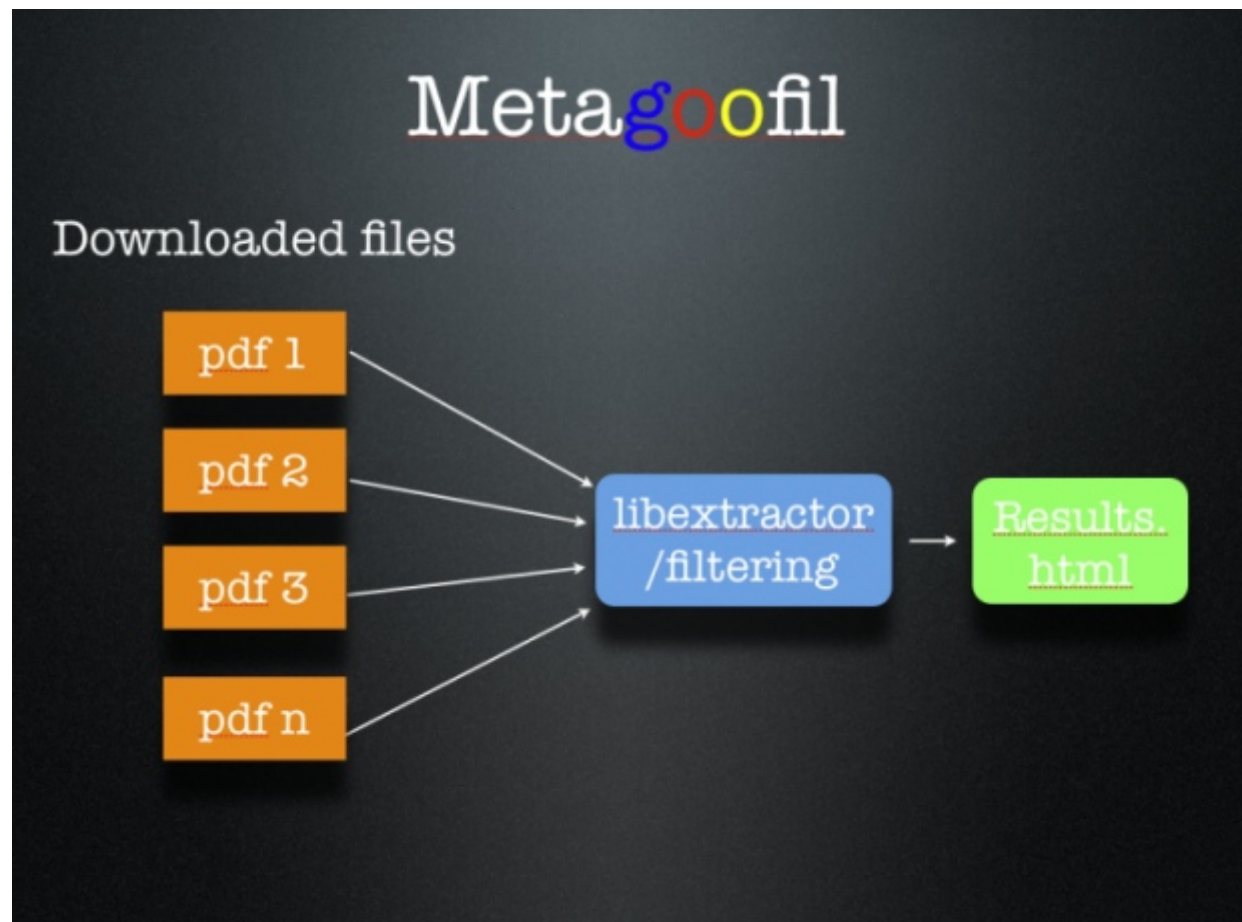
- “It will generate a html page with the results of the metadata extracted, plus a list of **potential usernames** and path disclosure, can be useful for preparing a **bruteforce attack** on open services like ftp, pop3, web applications, vpn, etc.”

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Metagoofil



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Metagoofil

```
cg@WPAD:~/evil/info-gathering/metagoofil/metagoofil-1.4a$ python metagoofil.py -  
d baytsp.com -l 1000 -f all -o baytsp-all.html -t baytsp-files
```

```
*****  
*MetaGooFil Ver. 1.4a *  
*Coded by Christian Martorella *  
*Edge-Security Research *  
*cmartorella@edge-security.com *  
*****
```

```
[+] Command extract found, proceeding with leeching  
[+] Searching in baytsp.com for: pdf  
[+] Total results in google: 3  
[+] Limit: 3  
[+] Searching results: 0  
    [ 1/3 ] http://www.baytsp.com/pressroom/BayTSNTTpressrelease.pdf  
    [ 2/3 ] http://www.baytsp.com/marketing/CAP_Datasheet.pdf  
    [ 3/3 ] http://www.baytsp.com/pdf/SampleNotices2007.pdf  
[+] Searching in baytsp.com for: doc  
[+] Total results in google: 0  
[+] Searching in baytsp.com for: xls  
[+] Total results in google: 0  
[+] Searching in baytsp.com for: ppt
```

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Metagoofil

Total authors found (potential users):

QuarkXPress(R) 7.01
QuarkXPress(tm) 6.5
Acrobat PDFMaker 5.0 for Word
PSCRIPT.DRV Version 4.0
QuarkXPress(R) 7.0
Safenet Inc.
Tim Wheatcroft
jtabor
Mykotronx
JTABOR
JT
royals
LVXN
Grace
Season Ji
Michael
mshi
Mary Ann Burns
maburns
nnamazi
Dick Dienna
Melanie Maclin
Andy Gromada
Rwang
Andy Wang
Royals Wang
Cheryl Lai

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Metagoofil

Local copy [Open](#)

Important metadata:

```
mimetype - application/msword
language - U.S. English
paragraph count - 7
line count - 28
last saved by - Dick Dienna
character count - 3363
template - Normal.dot
creation date - 2008-02-13T18:26:00Z
title - Company Name
word count - 590
page count - 1
creator - Melanie Maclin
date - 2008-02-13T18:26:00Z
generator - Microsoft Office Word
```

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Why Metadata?

- Metadata can:
- Reveal the creator of a document, and even a possible **network username** or derive naming convention.
- Reveal the application that created the document.
- Reveal the **version** of the software that created the document.
- Reveal creation date. Document was created recently with vulnerable version.
- **We now have possible usernames, applications used by those individuals and the software versions. Now we can deliver a directed client side attack for something installed in the enterprise.**

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Why Metadata?

- Also try running your word documents through The Revisionist by Michael Zalewski
- <http://lcamtuf.coredump.cx/strikeout/>
- The Revisionist can pull out deleted comments and text if the “track changes” had been used and dump the document with deleted text to an HTML file.

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On-line Tools

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ServerSniff.net

- <http://serversniff.net/>
- NS/MX Reports
- AS Reports
- Subdomains
- TLDs
- Hostnames on an IP
- Domains on webserver
- Web Tools
- HTML Comments
- HTML Code
- SSL Certificate Info
- Links within page
- Web Server Headers

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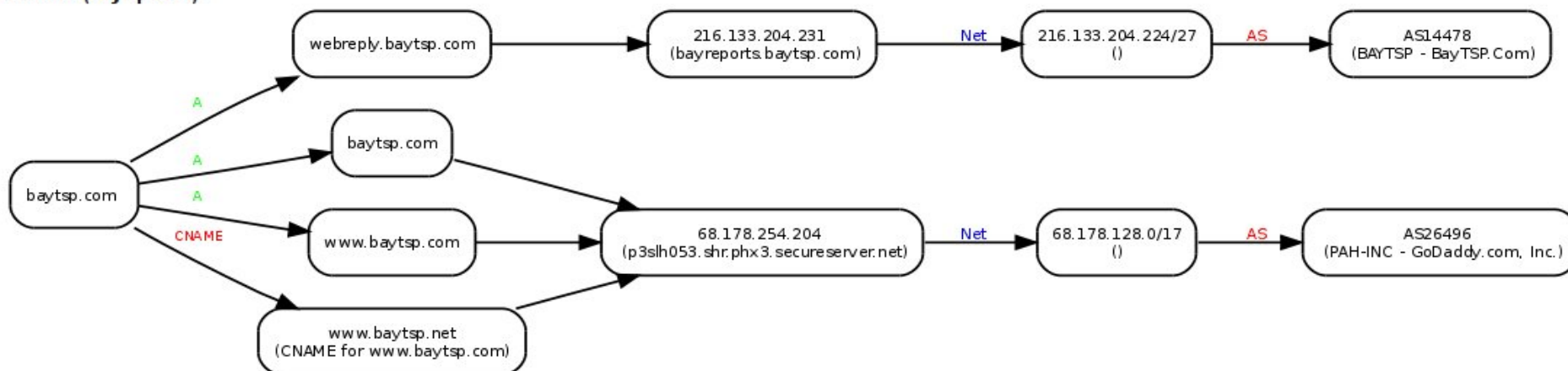
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ServerSniff.net

- <http://serversniff.net/>

Hostinfo (baytsp.com):



This Domain belongs to top-leveldomain **com**.

Registration-Data for this domain may be found on whois-server: **whois.internic.net** You might query whois-information for this domain [here](#)

You might also be interested in a [DNS-Report for baytsp.com](#)

You might also be interested in these AS-Reports:

- [AS-Report for AS26496](#)
- [AS-Report for AS14478](#)

You might also be interested in these Domain- and DNS-Reports:

- [Domain-Report for baytsp.com](#) | [DNS-Report for baytsp.com](#)

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ServerSniff.net

Domains on Nameserver

Shows other domains a nameserver is authoritative for.
Please be patient - especially on huge nameserver this might take a while...

Please enter a domainname or nameserver to lookup:

Optional: Show only Domainnames containing:

[Query Catalog](#)

baytsp.com has more than one nameserver, which is good! We tried to check the primary NS (**ns2.baytsp.net**).
Use these links to find out sister-domains hosted on the domain's other nameservers:

[-->ns2.baytsp.net](#)
[-->ns13.zoneedit.com](#)
[-->ns1.baytsp.net](#)

Checking for domains hosted on ns2.baytsp.net.... be patient...

- 1 [\[nscat\] \[dnr\] \[nsr\] acuityventures.com](#) [www](#)
- 2 [\[nscat\] \[dnr\] \[nsr\] copyrightguardian.net](#) [www](#)
- 3 [\[nscat\] \[dnr\] \[nsr\] assetscore.com](#) [www](#)
- 4 [\[nscat\] \[dnr\] \[nsr\] baytsp.com](#) [www](#)
- 5 [\[nscat\] \[dnr\] \[nsr\] copyright-compliance.com](#) [www](#)
- 6 [\[nscat\] \[dnr\] \[nsr\] copyrightspider.net](#) [www](#)
- 7 [\[nscat\] \[dnr\] \[nsr\] assetscore.net](#) [www](#)
- 8 [\[nscat\] \[dnr\] \[nsr\] ee-world.com](#) [www](#)
- 9 [\[nscat\] \[dnr\] \[nsr\] baytsp.net](#) [www](#)
- 10 [\[nscat\] \[dnr\] \[nsr\] copyrightspider.com](#) [www](#)
- 11 [\[nscat\] \[dnr\] \[nsr\] copyright-guardian.com](#) [www](#)
- 12 [\[nscat\] \[dnr\] \[nsr\] trademarkspider.com](#) [www](#)

[Add this NS to our Research-Query \(might take a few hours until results are visible!\)](#)

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DomainTools.com

- <http://www.domaintools.com/>



Wildcard search of all current/deleted/expired whois domains.
Domain Suggestions Engine serves over 10 Billion suggestions a year.

DomainTools Live Auction closing NOW! [Bid Now!](#)

[Whois](#) [Suggestions](#) [Domain Search](#) [At Auction](#) [For Sale](#) [DNS Tools](#)

Whois Lookup:

 **DOMAIN ROUNDTABLE CONFERENCE**
"Welcome to The New Domain Industry"

Do you own high-quality generic domains? [List them](#) in the April 21st DomainTools Live Auction at the Domain Roundtable Conference in San Francisco. Want to ensure your domain is listed? [Register now](#) for the conference - every attendee has a guaranteed-acceptance slot of one domain in the Live Auction.

- [Sign up for the Roundtable.](#)

Our Latest Blog Post: [DomainTools Live Auction](#) - 9 comments

 More Tools and Services Complete collection of all tools.	 Domain History Whois history database.	 Mark Alert Alerts when a domain uses my trademark.
 Live reports on web hosting companies Detailed uptime reports on providers	 Name Intelligence Awards The 2007 awards are out, see who won.	 Reverse IP Patent pending reverse IP search.
 DNS Tools DNS stuff, whois, traceroute, and ping.	 Members Area Modify account settings and options.	 Name Server Spy Follow the transfers of a name server.
 Domain Monitor Free tool to monitor all my domains.	 Typo Generator Find Domain Typos on any Domain.	 Whois Applications and Toolbars Google toolbar add-on and other applications.

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DomainTools.com

Browser address bar: <http://whois.domaintools.com/baytsp.com>

Tab: <https://www.google.com>

Tab: baytsp.com

Tab: **Baytsp.com - Bay tsp**

Updated: 2008-08-11

Registrar Status:	clientDeleteProhibited
Registrar Status:	clientRenewProhibited
Registrar Status:	clientTransferProhibited
Registrar Status:	clientUpdateProhibited
Name Server:	NS1.BAYTSP.NET (has 33 domains)
Name Server:	NS13.ZONEEDIT.COM (has 186,668 domains)
Name Server:	NS2.BAYTSP.NET (has 33 domains)
Whois Server:	whois.godaddy.com

Server Data

IP Address:	68.178.254.204 W R P D T
IP Location	- Arizona - Scottsdale - Godaddy.com Inc
Response Code:	200
Domain Status:	Registered And Active Website

DomainTools Exclusive

Registrant Search:	"Domains by Proxy, Inc." was found in about 7,226,158 other domains
Email Search:	baytsp.com@domainsbyproxy.com is associated with about 1 domains
Registrar History:	1 registrar
NS History:	3 changes on 4 unique name servers over 6 years.
IP History:	4 changes on 4 unique name servers over 4 years.
Whois History:	141 records have been archived since 2001-12-31.
Reverse IP:	3,482 other sites hosted on this server.
Monitor Domain:	Set Free Alerts on baytsp.com

Done

CarnalOwne

Classified by 3166
Declassify on: OADR
EX-114-1948 CRR
b7c



DomainTools.com

- Hosting history: Track previous web hosts and hosting providers
- Domain history: viewing contact information before it was privatized
- Registrant Alert: Find new registrations by someone
- Registrant Search: Find all domains someone owns
- Links to Wikipedia references
- Best/Most tools on site are for pay :-)

CarnalOwne



CentralOps.net

- <http://centralops.net/co/>

CentralOps.net Advanced online Internet utilities

Utilities

Domain Dossier
Domain Check
Email Dossier
Browser Mirror

Ping
Traceroute
Nslookup
AutoWhois
TcpQuery
AnalyzePath

Hosting metrics

Shared hosting
VPS hosting
Email hosting
Dedicated hosting

Domain Dossier

Investigate domains and IP addresses

domain or IP address

☒ domain whois record ☒ DNS records ☒ traceroute
☒ network whois record ☒ service scan

user: 12.187.158.130 [anonymous] 49/50
[log in](#) | [get account](#)

CentralOps.net

New: See [daily test results](#) of online hosting providers.

Address lookup

canonical name [baytsp.com.](#)

aliases

addresses **68.178.254.204**

Domain Whois record

Queried [whois.internic.net](#) with "dom baytsp.com"...

Whois Server Version 2.0



CentralOps.net

Utilities

- Domain Dossier
- Domain Check
- Email Dossier
- Browser Mirror
- Ping
- Traceroute
- NsLookup
- AutoWhois
- TcpQuery
- AnalyzePath

Hosting metrics

- Shared hosting
- VPS hosting
- Email hosting
- Dedicated hosting

DNS records

name	class	type	data	time to live
baytsp.com	IN	SOA	server: ns1.baytsp.net	86400s (1.00:00:00)
			email: noc.baytsp.net	
			serial: 2008090901	
			refresh: 28800	
			retry: 14400	
			expire: 3600000	
			minimum ttl: 86400	
baytsp.com	IN	TXT	v=spf1 mx include:baytsp.net -all	86400s (1.00:00:00)
baytsp.com	IN	MX	preference: 10	86400s (1.00:00:00)
			exchange: mail.baytsp.net	
baytsp.com	IN	A	68.178.254.204	86400s (1.00:00:00)
baytsp.com	IN	NS	ns13.zoneedit.com	86400s (1.00:00:00)
baytsp.com	IN	NS	ns1.baytsp.net	86400s (1.00:00:00)
baytsp.com	IN	NS	ns2.baytsp.net	86400s (1.00:00:00)
204.254.178.68.in-addr.arpa	IN	PTR	p3slh053.shr.phx3.secureserver.net	3600s (01:00:00)

CarnalOwne

11/10/94
Classified by 57668
Declassify on: OADR
b7c



CentralOps.net

Utilities

Domain Dossier
Domain Check
Email Dossier
Browser Mirror

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AnalyzePath

Hosting metrics

Shared hosting
VPS hosting
Email hosting
Dedicated hosting

11	27	27	27	208.109.112.142	ip-208-109-112-142.ip.secureserver.net
12	26	27	27	216.69.188.33	ip-216-69-188-33.ip.secureserver.net
13	27	27	27	68.178.254.204	p3slh053.shr.phx3.secureserver.net

Trace complete

Service scan

FTP - 21 220----- Welcome to Pure-FTPd [privsep] [TLS] -----
220-You are user number 4 of 50 allowed.
220-Local time is now 07:52. Server port: 21.
220-This is a private system - No anonymous login
220 You will be disconnected after 3 minutes of inactivity.
220 Logout.

SMTP - 25 Error: TimedOut

HTTP - 80 HTTP/1.1 200 OK
Date: Sat, 27 Sep 2008 14:53:01 GMT
Server: Apache
Connection: close
Content-Type: text/html

POP3 - 110 Error: TimedOut

IMAP - 143 Error: TimedOut

-- end --
[URL for this output](#) | [return to CentralOps.net](#), a service of Hexillion



11/10/94
Declassified by 57668
Declassify on: OADR
b7c



CentralOps.net

Utilities

- Domain Dossier
- Domain Check
- Email Dossier
- Browser Mirror

- Ping
- Traceroute
- NsLookup
- AutoWhois
- TcpQuery
- AnalyzePath

Hosting metrics

- Shared hosting
- VPS hosting
- Email hosting
- Dedicated hosting

SMTP session

```
[Contacting mail.baytsp.net [216.133.204.227]...]
[Connected]
220 mail.baytsp.net ESMTP XWall v3.42
EHLO hexillion.com
250-mail.baytsp.net
250-ENHANCEDSTATUSCODES
250-ETRN
250-DSN
250-8BITMIME
250-PRIORITY
250-CHUNKING
250-SIZE
250-XBDATA
250 XXWALL30
VRFY jimg
553 User ambiguous
RSET
250 2.0.0 ok
EXPN jimg
502 5.5.1 command not implemented
RSET
250 2.0.0 ok
MAIL FROM:<HexValidEmail@hexillion.com>
250 2.1.0 originator <HexValidEmail@hexillion.com> ok
RCPT TO:<jimg@baytsp.com>
451 4.7.1 message delayed, see http://www.greylisting.org ; Please try again later
[Unfavorable reply code, cannot continue]
RSET
250 2.0.0 ok
QUIT
```

CarnalOwne

11/10/94
Classified by 57648
Declassify on: OADR
b7c



CentralOps.net

- Email Verification (failure)

CentralOps.net Advanced online Internet utilities

Utilities

- Domain Dossier
- Domain Check
- Email Dossier
- Browser Mirror
- Ping
- Traceroute
- Nslookup
- AutoWhois
- TcpQuery
- AnalyzePath

Hosting metrics

- Shared hosting
- VPS hosting
- Email hosting
- Dedicated hosting

Email Dossier Investigate email addresses

email address

☒ try vrfy and expn

source code: [view](#) | [download](#)

Validating 20sws9001@nyp.org...

Validation results

confidence rating: 0 - Bad address
error : Recipient rejected
canonical address: <20sws9001@nyp.org>

MX records

preference	exchange	IP address (if included)
10	mail-gw2.med.cornell.edu	
20	mail-gw1.med.cornell.edu	
30	smtp-gw2.med.cornell.edu	

SMTP session

```
[Resolving mail-gw2.med.cornell.edu...]
[Contacting mail-gw2.med.cornell.edu [140.251.3.2]...]
[Connected]
220 mail-gw2.med.cornell.edu -- Server ESMTP (SMTP Server)
EHLO hexillion.com
250-mail-gw2.med.cornell.edu
250-8BITMIME
250-PIPELINING
250-CHUNKING
250-DSN
250-ENHANCEDSTATUSCODES
250-HELP
250-XLOOP AA7D71C0C3870C2D913E915653235725
250-ETRN
250-NO-SOLICITING
250 SIZE 102400000
VRFY 20sws9001
252 2.5.0 Possible local address <20sws9001@mail-gw2.med.cornell.edu>
RSET
250 2.5.0 Ok.
EXPN 20sws9001
550 5.7.2 EXPN command has been disabled.
RSET
250 2.5.0 Ok.
MAIL FROM:<HexValidEmail@hexillion.com>
250 2.5.0 Address Ok.
RCPT TO:<20sws9001@nyp.org>
550 5.1.1 unknown or illegal alias: 20sws9001@nyp.org
[Address has been rejected]
RSET
250 2.5.0 Ok.
```

CarnalOwne

11/10/94
Classified by 57668
Declassify on: OADR
b7c



CentralOps.net

- Email Verification (success)

Email Dossier

Investigate email addresses

email address

go

☒ try vrfy and expn

source code: [view](#) | [download](#)

CentralOps.net

Validating **nursingsce@nyp.org**...

Validation results

confidence rating: **3 - SMTP**

The email address passed this level of validation without an error. However, it is not guaranteed to be a good address. [more info](#)

canonical address: **<nursingsce@nyp.org>**

MX records

preference	exchange	IP address (if included)
10	mail-gw2.med.cornell.edu	[140.251.3.2]
20	mail-gw1.med.cornell.edu	[140.251.3.44]
30	smtp-gw2.med.cornell.edu	[157.139.3.45]

SMTP session

```
[Contacting mail-gw2.med.cornell.edu [140.251.3.2]...]
[Connected]
220 mail-gw2.med.cornell.edu -- Server ESMTA (SMTP Server)
EHLO hexillion.com
250-mail-gw2.med.cornell.edu
250-8BITMIME
250-PIPELINING
250-CHUNKING
250-DSN
250-ENHANCEDSTATUSCODES
250-HELP
250-XLOOP AA7D71C0C3870C2D913E915653235725
250-ETRN
250-NO-SOLICITING
250 SIZE 102400000
VRFY nursingsce
252 2.5.0 Possible local address <nursingsce@mail-gw2.med.cornell.edu>
RSET
250 2.5.0 Ok.
EXPN nursingsce
550 5.7.2 EXPN command has been disabled.
RSET
250 2.5.0 Ok.
MAIL FROM:<HexValidEmail@hexillion.com>
250 2.5.0 Address Ok.
RCPT TO:<nursingsce@nyp.org>
250 2.1.5 nursingsce@nyp.org OK.
RSET
250 2.5.0 Ok.
QUIT
221 2.3.0 Bye received. Goodbye.
[Connection closed]
```

CarnalOwne

11/10/94

Classified by 57648

Declassify on: OADR

b7c



Clez.net

- <http://clez.net/net>

net.toolkit

index

net

.app

.block

.ping

.ssl

.tcp

.traceroute

.whois

string

list

mail

web

expand | collapse

net.ann

what's up and running?

idn

:

80

go

☐ Net

☒ Head

protocol hint

http

info

What's this?

Given you know an open TCP port at a host and want to know which application is waiting for connections. In **net** mode, we try to find it out without knowing anything. It takes longer than **head**, a mode based on rough knowledge of the protocol. Most information we gather here can be retrieved via telnet or nmap, but needs the outbound port on your client to be open.

Reason for building this service

I built this service because I occasionally appear to find myself in corporate networks not allowing me to probe any port I need.

CarnalOwne

11/10/94
Classified by 57648
Declassify on: OADR
b7c



Clez.net

- Query port and service scan information
- dns, ping, whois, ssl info, traceroutes
- email verification, open relay checking

net.app
what's up and running?

idn : >GO protocol hint

[info](#) [scan result](#) [port list \(27\)](#)

Application detection

Application	Apache httpd
Protocol	http

HTTP HEAD Request

HTTP/1.1 200 OK	
Date	Sat, 27 Sep 2008 16:20:14 GMT
Server	Apache
Connection	close
Content-Type	text/html

Elapsed time: 0.306 seconds.

Additional HTTP Methods

net.toolkit

index

net +

- .app
- .block
- .dns
- .ping
- .ssl
- .tcp
- .traceroute
- .whois

string +

list +

mail +

web +

expand | collapse

ADD THIS

Caution

b7c



Clez.net

- Email Verification

net.toolkit

- index
- net +
- string +
- list +
- mail +
- .rbl
- .relay
- .surbl
- .vrfy
- web +

expand | collapse

+ ADD THIS

mail.vrfy

Test if an email address could receive messages.

idn >GO smtp smtps all mx

? info

vrfy result

basic tests:

PASSED syntax check
PASSED local part check
PASSED hostname is not an IDN
PASSED resolved hostname
PASSED well-known throwaway and example check
PASSED baytsp.com has 1 MX records set

mail exchanger mail.baytsp.net at priority 10

PASSED mail.baytsp.net resolves to 216.133.204.227
PASSED connected to mail.baytsp.net:25
PASSED got (E)SMTP greeter:
PASSED mailbox verified by VRFY
WARNING SMTPd does not support/denies EXPN
PASSED accepts test sender
FAILED mailbox unknown, mail would be rejected

220 mail.baytsp.net ESMTP XWall v3.42

252 Unable to VRFY user (e.g. info is not local), but will take message for this
502 command not implemented

mail verification finished, all checked mailservers rejected the recipient.

CarnalOwne

11/10/94
Classified by 57668
Declassify on: OADR
b7c



Clez.net

- Email Verification

net.toolkit

index

net +

string +

list +

mail +

.rbl

.relay

.surbl

.vrfy

web +

expand | collapse

ADD THIS

nursingsce@nyp.org >GO smtp smtps all mx

? info vrfy result

basic tests:

- PASSED syntax check
- PASSED local part check
- PASSED hostname is not an IDN
- PASSED resolved hostname
- PASSED well-known throwaway and example check
- PASSED nyp.org has 3 MX records set

mail exchanger mail-gw2.med.cornell.edu at priority 10

- PASSED mail-gw2.med.cornell.edu resolves to 140.251.3.2
- PASSED connected to mail-gw2.med.cornell.edu:25
- PASSED got (E)SMTP greeter:
- PASSED mailbox verified by VRFY
- WARNING EXPN is prohibited on this system
- PASSED accepts test sender
- PASSED accepts e-mails to nursingsce@nyp.org

220 mail-gw2.med.cornell.edu -- Server ESMTP (SMTP Server)
252 2.5.0 Possible local address <nursingsce@nyp.org>
550 5.7.2 EXPN command has been disabled.

mail exchanger mail-gw1.med.cornell.edu at priority 20

- PASSED mail-gw1.med.cornell.edu resolves to 140.251.3.44
- PASSED connected to mail-gw1.med.cornell.edu:25
- PASSED got (E)SMTP greeter:
- PASSED mailbox verified by VRFY
- WARNING EXPN is prohibited on this system
- PASSED accepts test sender
- PASSED accepts e-mails to nursingsce@nyp.org

220 mail-gw1.med.cornell.edu -- Server ESMTP (SMTP Server)
252 2.5.0 Possible local address <nursingsce@nyp.org>
550 5.7.2 EXPN command has been disabled.

CarnalOwne

11/10/94
Declassified by 57668
Declassify on: OADR
Black Kite Ex 1018, Page 58 of 84



Clez.net

- Email Verification

net.toolkit

- index
- net +
- string +
- list +
- mail +
 - .rbl
 - .relay
 - .surbl
 - .vrfy
- web +

expand | collapse

ADD THIS

mail.vrfy

Test if an email address could receive messages.

notthere@nyp.org

>GO

smtp

smtps

all mx

info

vrfy result

basic tests:

PASSED syntax check
PASSED local part check
PASSED hostname is not an IDN
PASSED resolved hostname
PASSED well-known throwaway and example check
PASSED nyp.org has 3 MX records set

mail exchanger mail-gw2.med.cornell.edu at priority 10

PASSED mail-gw2.med.cornell.edu resolves to 140.251.3.2
PASSED connected to mail-gw2.med.cornell.edu:25
PASSED got (E)SMTP greeter:
PASSED mailbox verified by VRFY
WARNING EXPN is prohibited on this system
PASSED accepts test sender
FAILED mailbox unknown, mail would be rejected

220 mail-gw2.med.cornell.edu -- Server ESMTP (SMTP Server)
252 2.5.0 Possible local address <notthere@nyp.org>
550 5.7.2 EXPN command has been disabled.

mail exchanger mail-gw1.med.cornell.edu at priority 20

PASSED mail-gw1.med.cornell.edu resolves to 140.251.3.44
PASSED connected to mail-gw1.med.cornell.edu:25
PASSED got (E)SMTP greeter:
PASSED mailbox verified by VRFY
WARNING EXPN is prohibited on this system
PASSED accepts test sender
FAILED mailbox unknown, mail would be rejected

220 mail-gw1.med.cornell.edu -- Server ESMTP (SMTP Server)
252 2.5.0 Possible local address <notthere@nyp.org>
550 5.7.2 EXPN command has been disabled.

CarnalOwne

11/10/94

Classified by 57668

Declassify on: OADR

b7c



Robtex

- <http://www.robtex.com/> Similar to ServerSniff

baytsp.com

domain graph shared whois blacklists

baytsp.com is a domain controlled by three nameservers. All of them are on different IP networks. Incoming mail for **baytsp.com** is handled by one mailserver at **baytsp.net**. **baytsp.com** has one IP record. **sfaa.us**, **chsm.net**, **dmsm.net**, **33rx.info**, **acslc.net** and at least 100 other hosts point to the same IP. **gsr.se**, **dwdj.com**, **eews.com**, **cdbl.net**, **cfod.net** and at least 100 other hosts share nameservers with this domain. **baytsp.net**, **tronarx.net**, **assetscore.net**, **ladiesweekend.com**, **copyrightspider.net** and at least seven other hosts share mailservers with this domain. **69-22-178-185.baytsp.com**, **69-22-181-164.baytsp.com**, **69-22-180-164.baytsp.com**, **69-22-180-180.baytsp.com**, **69-22-181-182.baytsp.com** and at least 100 other hosts are subdomains to this hostname.



base	record	name	ip	reverse	route	as
baytsp.com	a		68.178.254.204 Apache	p3slh053.shr.phx3.secureserver.net	68.178.252.0/22	AS26496 PAH-INC Go Daddy Software, Inc.
	ns	ns13.zoneedit.com	66.223.40.121 dns		66.223.0.0/17 66.223.0.0~66.223.127.255	AS11305 INTERLAND-NET1 Interland Incorporated
		ns1.baytsp.net	216.133.204.226 dns		216.133.192.0/19 Megapath aggregate	AS4565 EPOCH Megapath Inc./Formerly Netifice Communications/Epoch Internet 555 Anton Blvd, 2nd Floor Costa Mesa, CA 92626 NOC: 1888 638 3696 or 1714 327 2000 nocops@netifice.com Peering: @megapath.com Megapath BGP customers may choose to effect our local preferen
		ns2.baytsp.net	216.132.49.229 dns		216.132.0.0/16 Megapath aggregate	
	mx	mail.baytsp.net	216.133.204.227 220 mail.baytsp.net		216.133.192.0/19 Megapath aggregate	

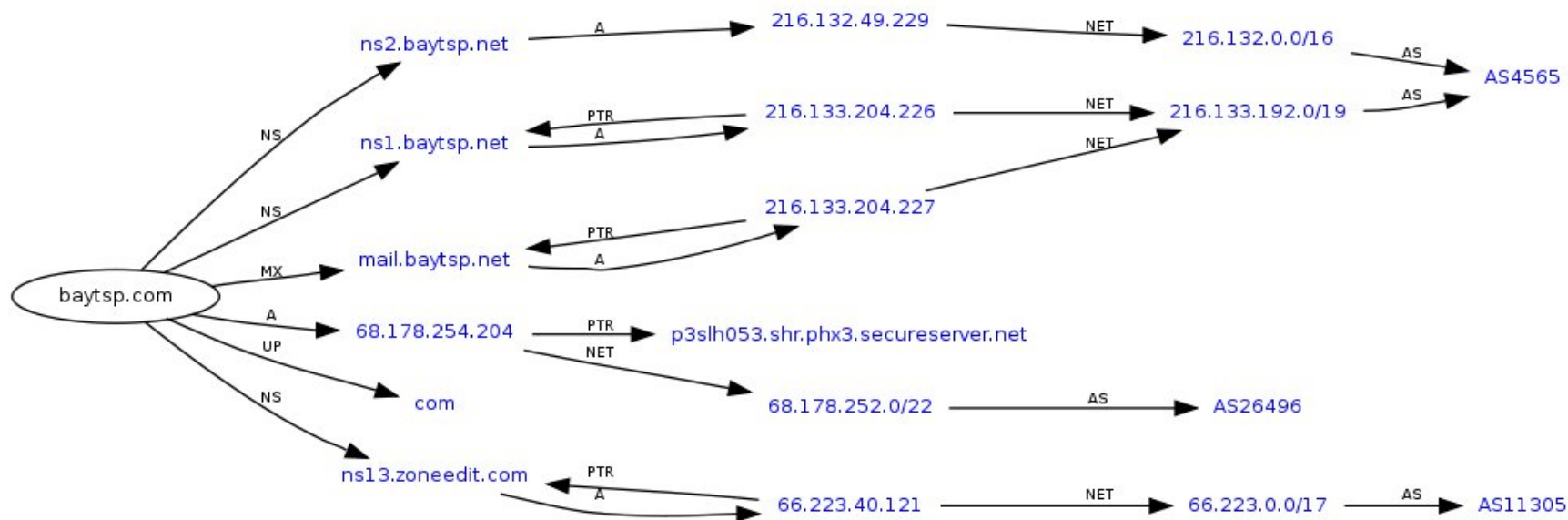
CarnalOwne

11/10/94
Classified by 57668
Declassify on: OADR
b7c



Robtex

[net.gtld-servers.net](#) [baytsp.net](#) [zoneedit.com](#) [phx3.secureserver.net](#) [shr.phx3.secureserver.net](#) [secureserver.net](#)



hostnames sharing ip with a-records

[1cialissource.net](#)
[1cialisstop.net](#)
[1levitrasource.net](#)
[1levitrasstop.net](#)

hostnames beginning with baytsp

[baytsp.co.uk](#)
[baytsp.fe4-5.ar1.sfo2.infraswitch.net](#)
[baytsp.net](#)

hostnames sharing ip indirectly via cnames

[www.hegstrom.com](#)

domains sharing mailservers

[assetscore.net](#)
[baytsp.net](#)
[copyright-compliance.com](#)
[copyright-guardian.com](#)

domains sharing nameservers

[abeltek.com](#)
[adsl2pluss.net](#)
[aeonsystems.org](#)
[aimteam.com](#)

subdomains

[.baytsp.com](#)
[69-22-140-161.baytsp.com](#)
[69-22-140-162.baytsp.com](#)
[69-22-140-163.baytsp.com](#)
[69-22-140-164.baytsp.com](#)

CarnalOwne

11/10/94
Classified by 57668
Declassify on: OADR
b7c



TouchGraph

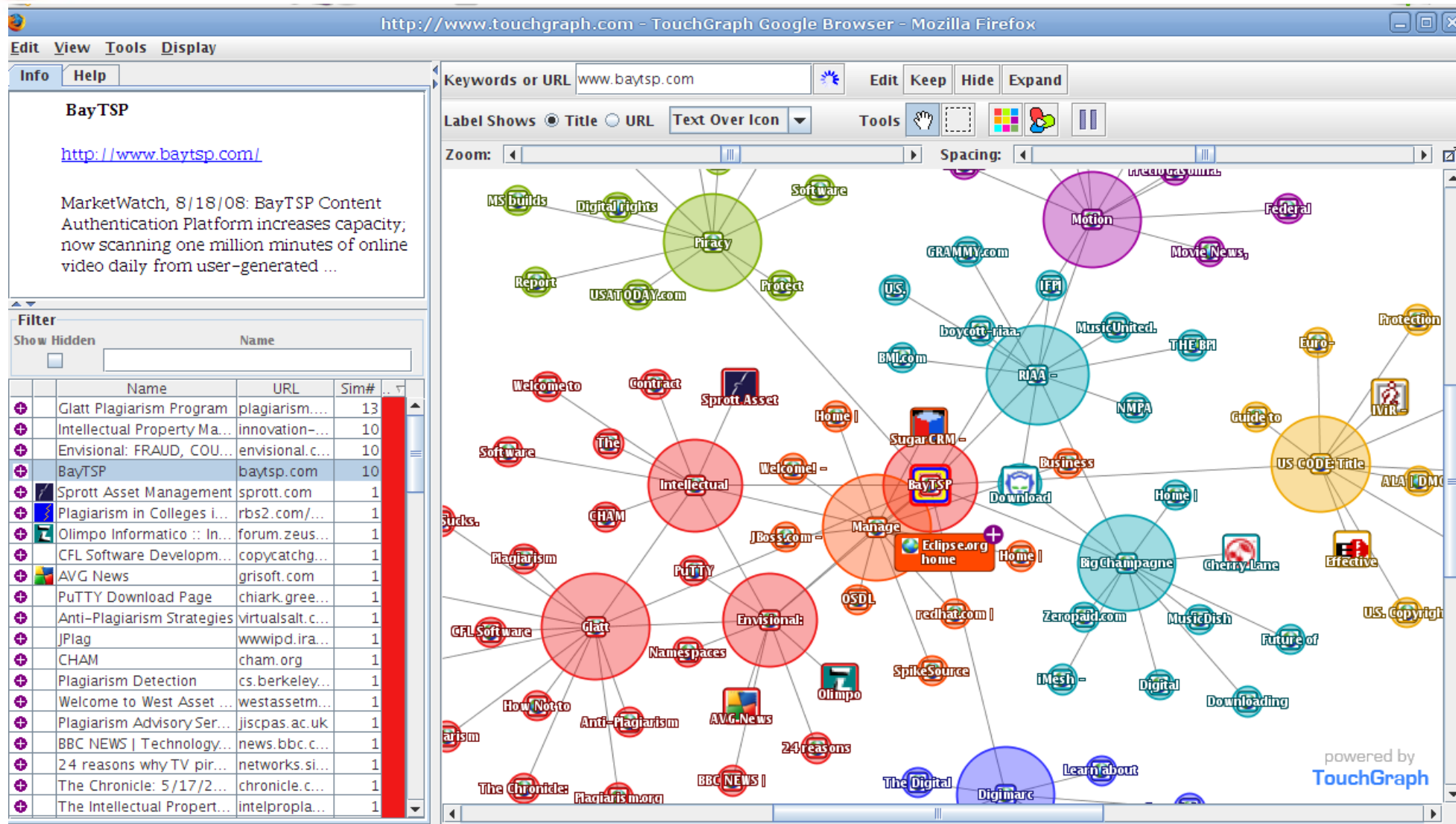
- <http://touchgraph.com>
- “TouchGraph's powerful visualization solutions reveal relationships between people, organizations, and ideas.”
- Visually show the big picture on how things are tied together using Google results.

C a r n a l O w n a g e

11/10/94
Classified by 57648 [redacted] b7c
Declassify on: OADR
[redacted]



TouchGraph



Carnal Ownage

11/10/94
Classified by 57668
Declassify on: OADR
b7c



Tying it all together with Maltego

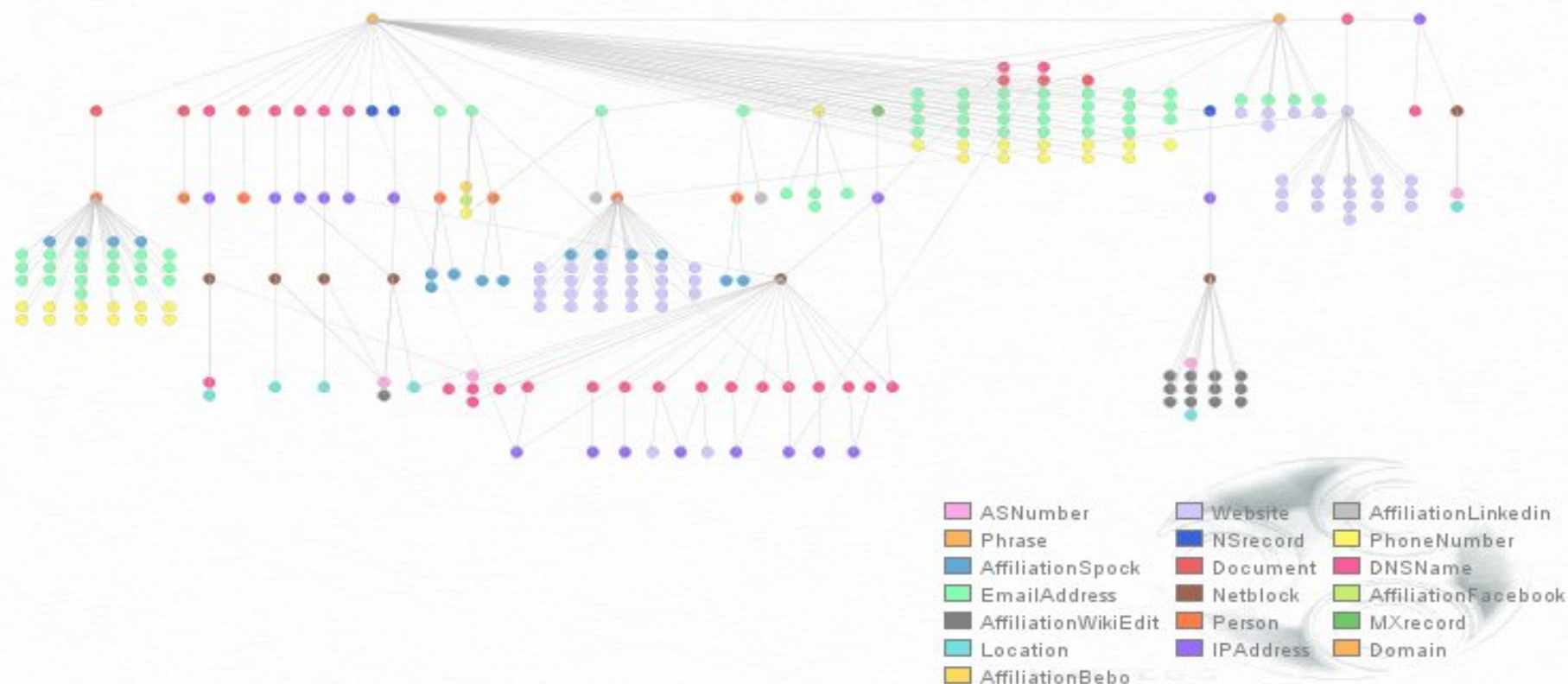
Carnal Ownage

11/10/94
Classified by 57648 [redacted] b7c
Declassify on: OADR
[redacted] 1045 CRR



Maltego

- What does this tell me about our target domain?



Carnal Ownage

11/10/94
Classified by 57668
Declassify on: OADR
b7c



Maltego

- <http://www.paterva.com/web2/Maltego/maltego.html>
- By Roelof Temmingh from Paterva
- **What is it?**
- Maltego is a program that can be used to determine the relationships and real world links between:
 - People
 - Groups of people (social networks)
 - Companies
 - Organizations
 - Web sites
 - Internet infrastructure such as:
 - Domains
 - DNS names
 - Netblocks
 - IP addresses
 - Phrases
 - Affiliations
 - Documents and files
- All using open source intelligence (OSINT)

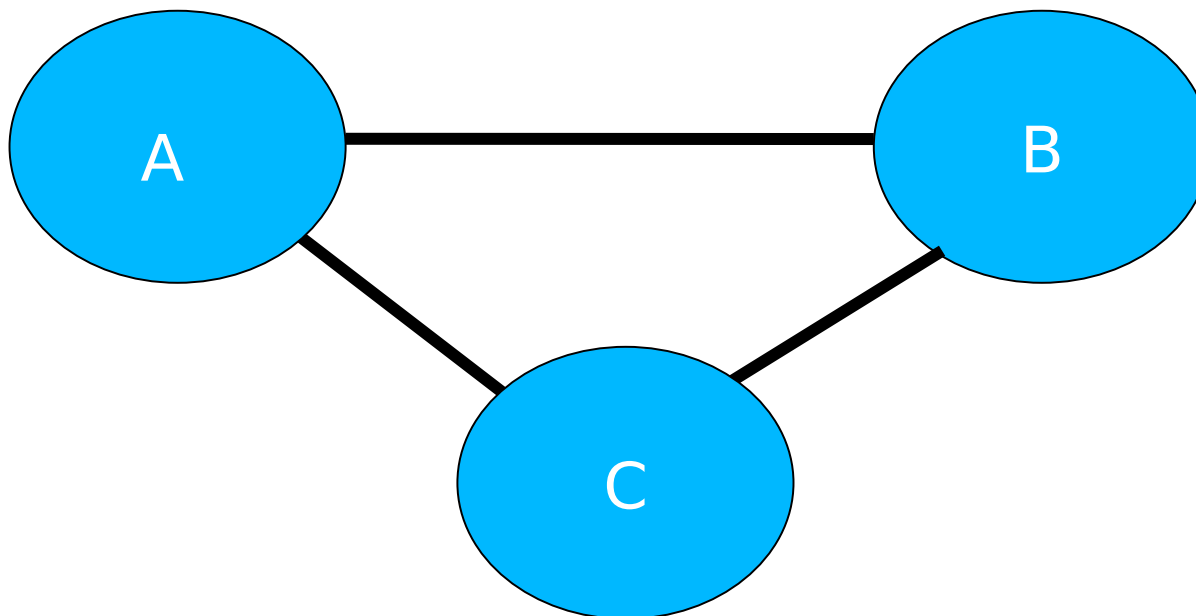
CarnalOwne

11/10/94
Classified by 57648
Declassify on: OADR
b7c



Maltego

- It would be good to learn or verify that A is related to B and they are both related to C, or...



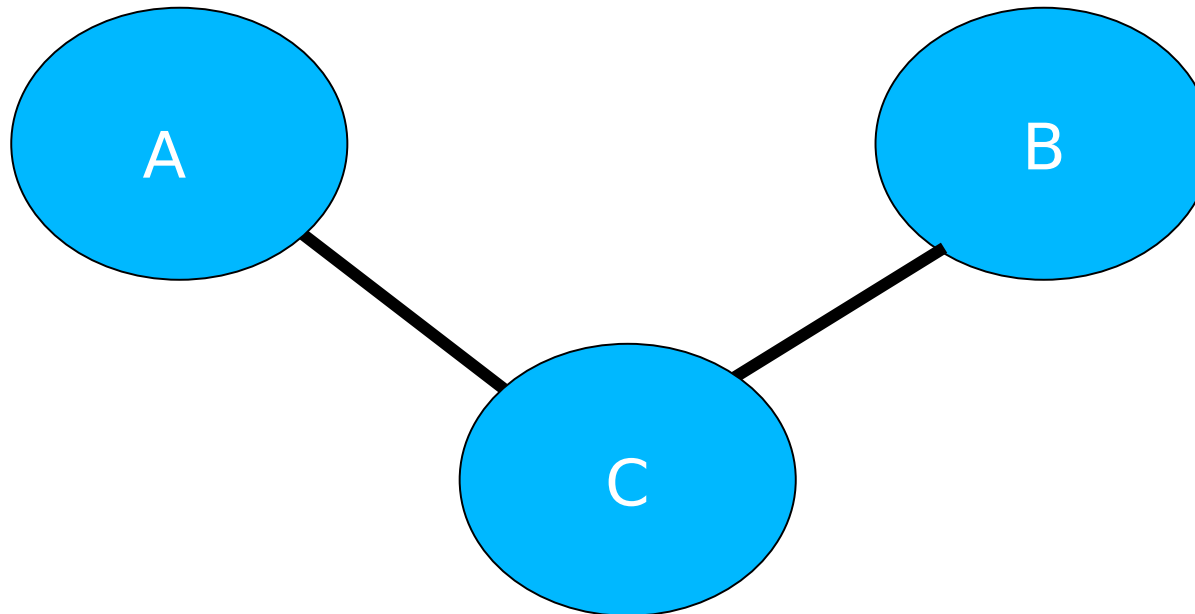
Carnal Ownage

11/10/94
Classified by 57648
Declassify on: OADR
b7c



Maltego

- We can see that A and B are related **through** C



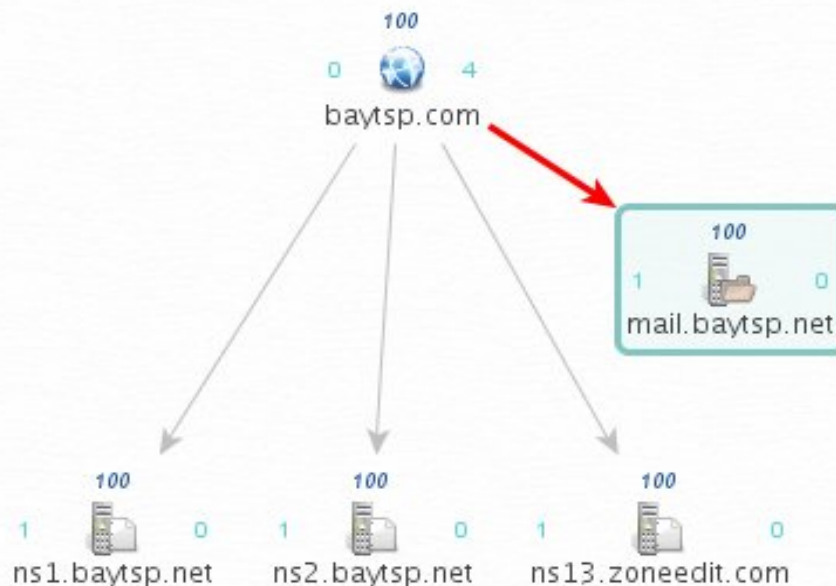
Carnal Ownage

11/10/94
Classified by 57648
Declassify on: OADR
b7c



Maltego

- Find our MX and NS servers

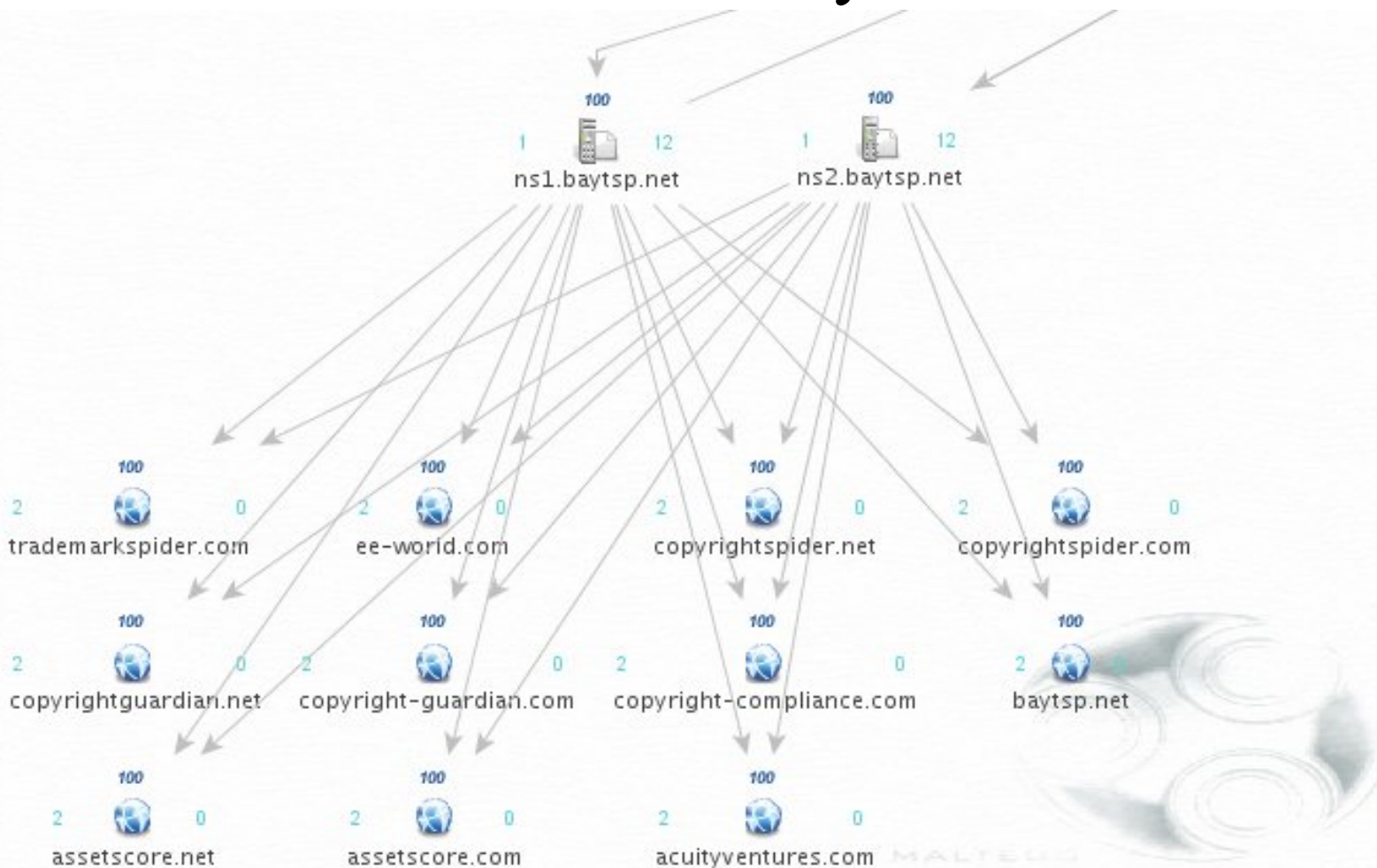


CarnalOwne



Maltego

- See what hostnames are shared by the DNS servers



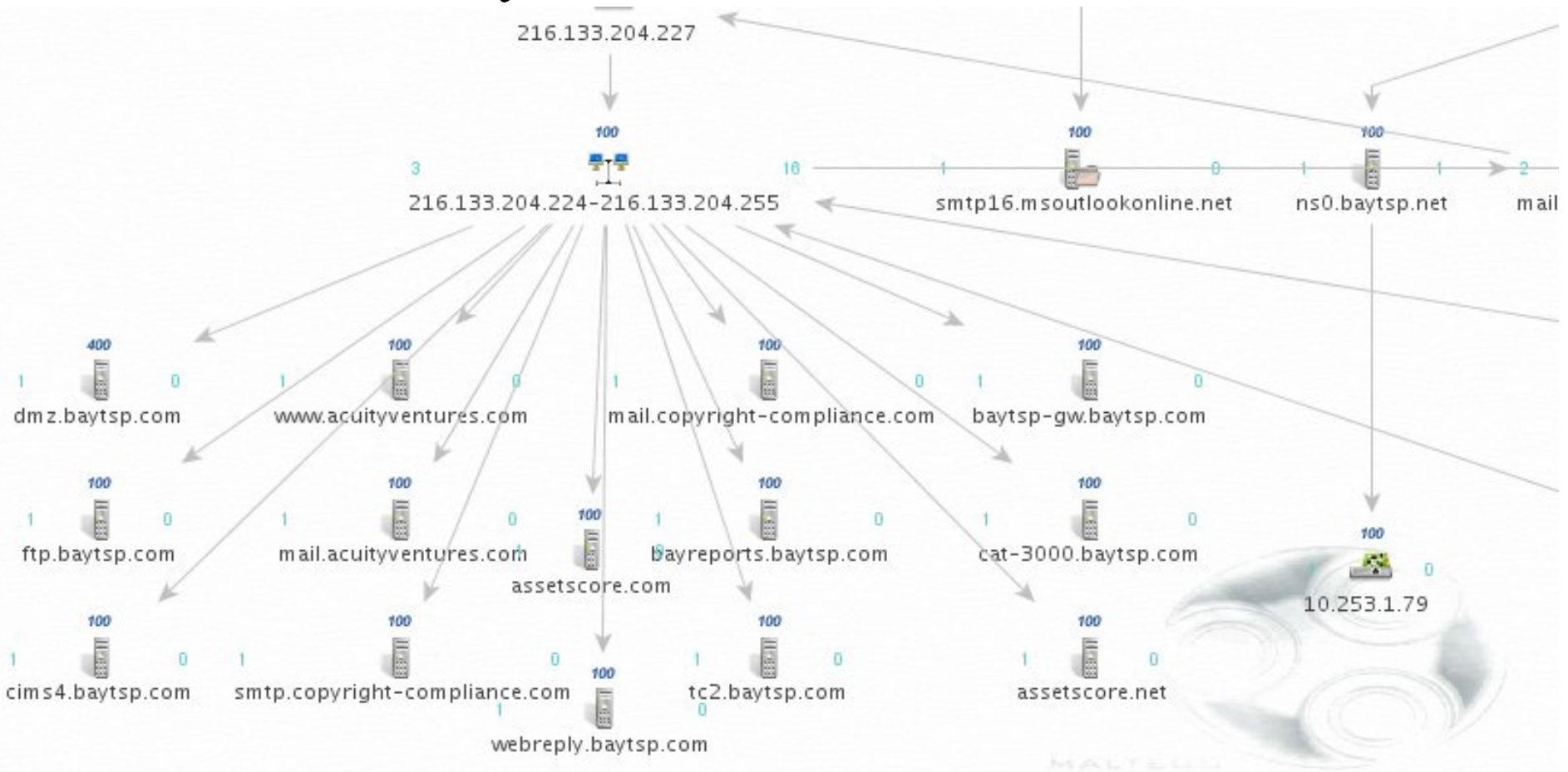
CarnalOwne

Classified by 5768 [redacted] b7c



Maltego

- Turn each of those IPs into netblocks and do DNS lookups for each class C, you can also resolve those to IPs

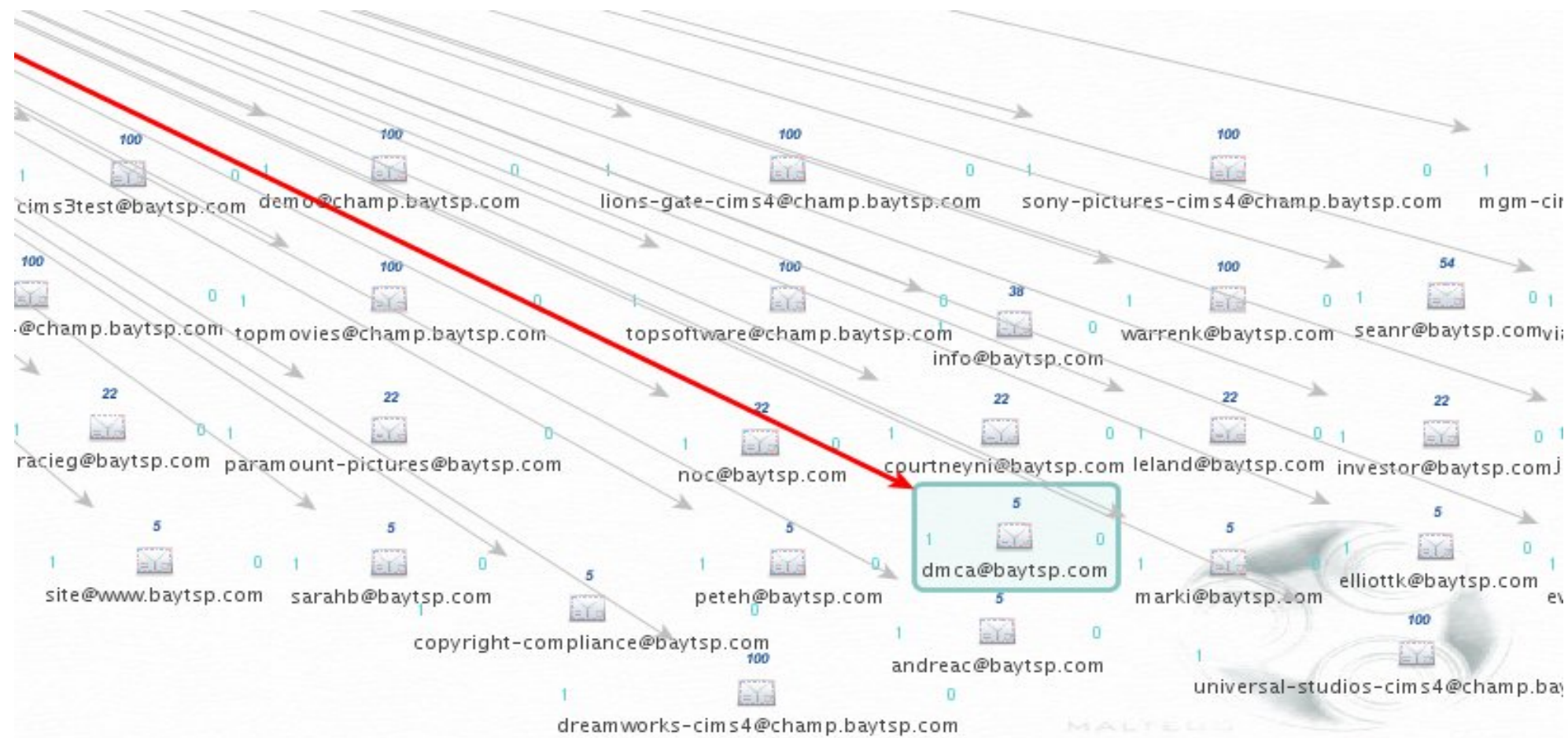


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Maltego

- Harvest emails for the domain and verify them

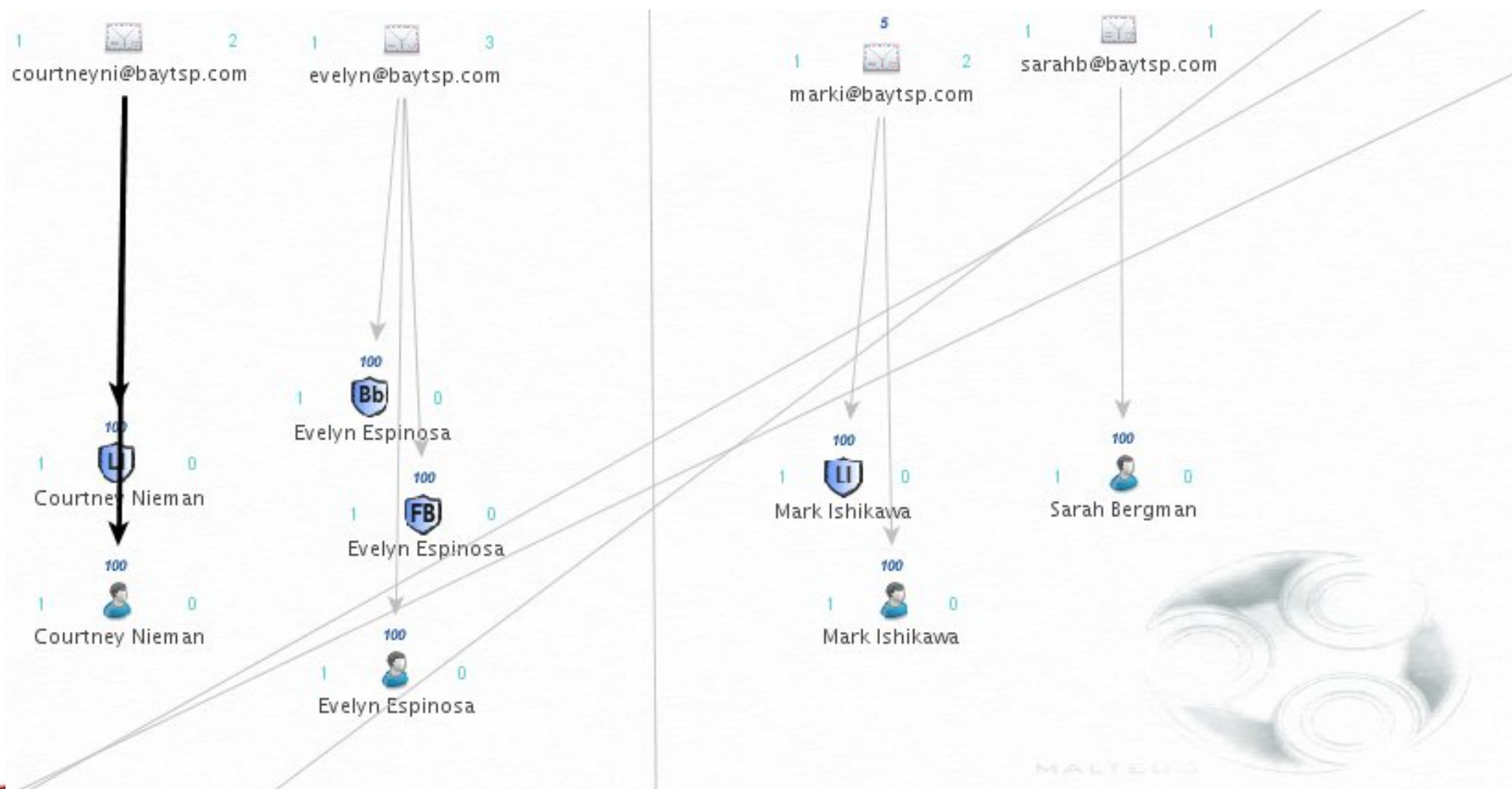


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Maltego

- Turn those emails into users and their social networks

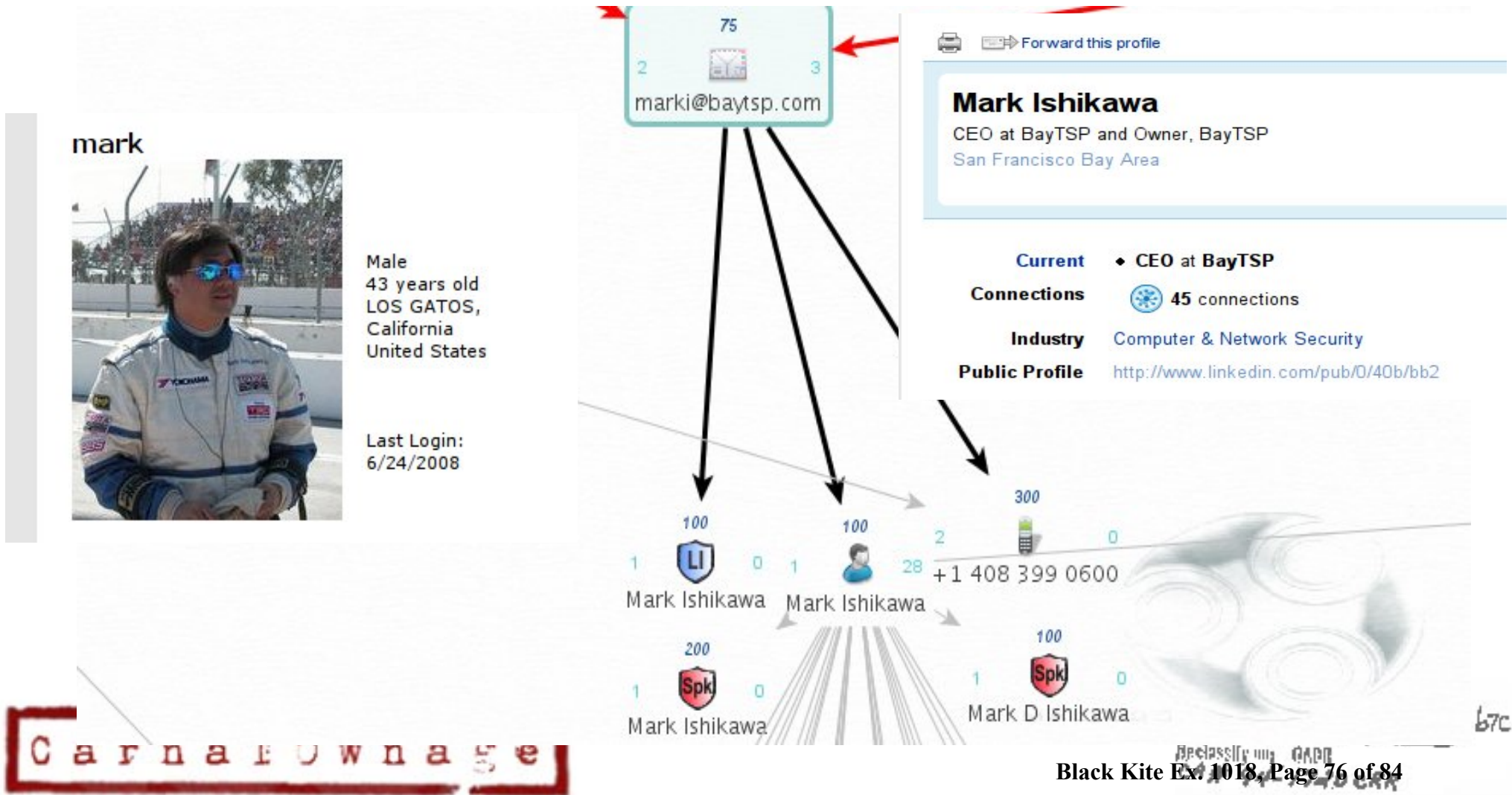


Carnal Ownership



Maltego

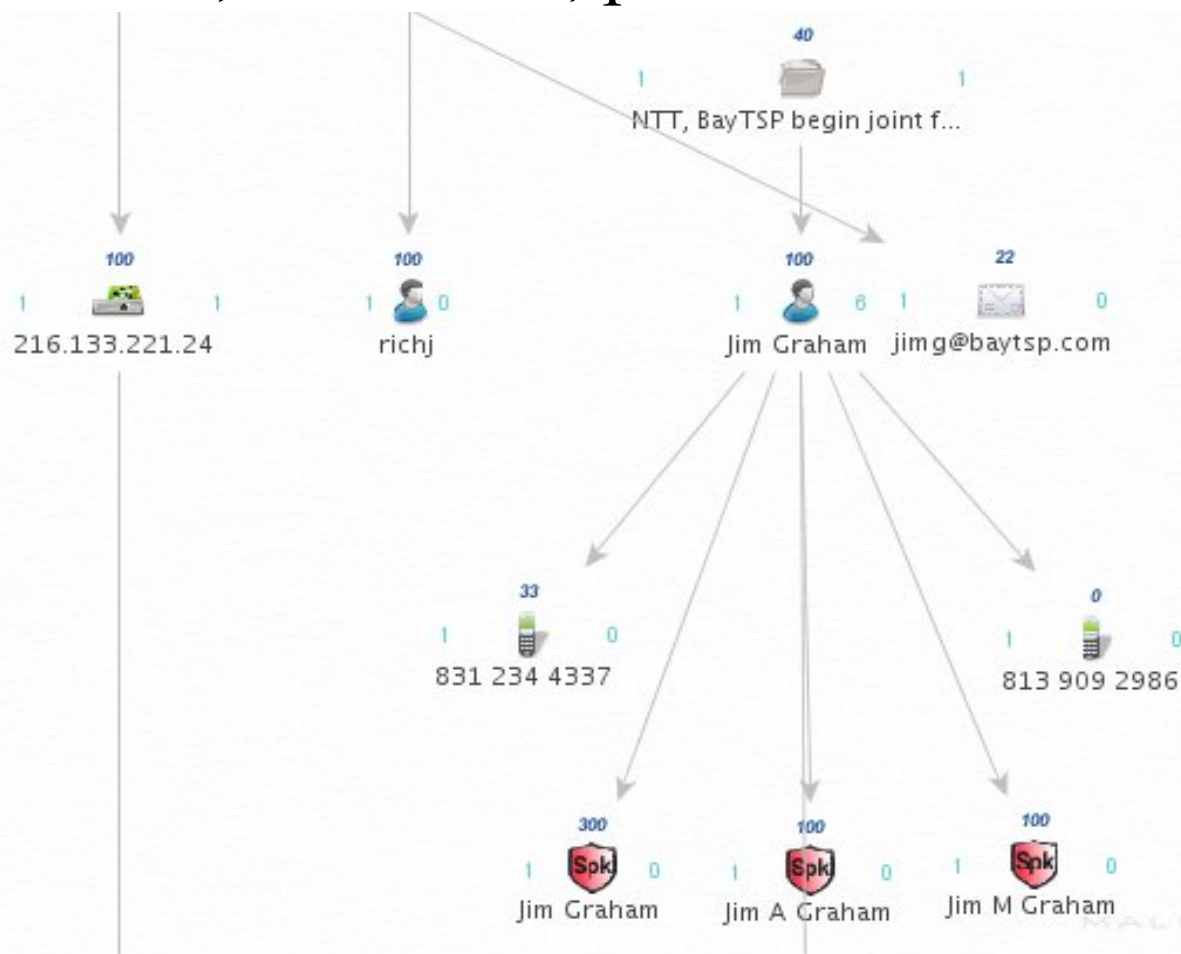
- Take an email and derive name, phone number, social network information





Maltego

- Harvest documents for the domain and parse the metadata, get emails, usernames, phone numbers

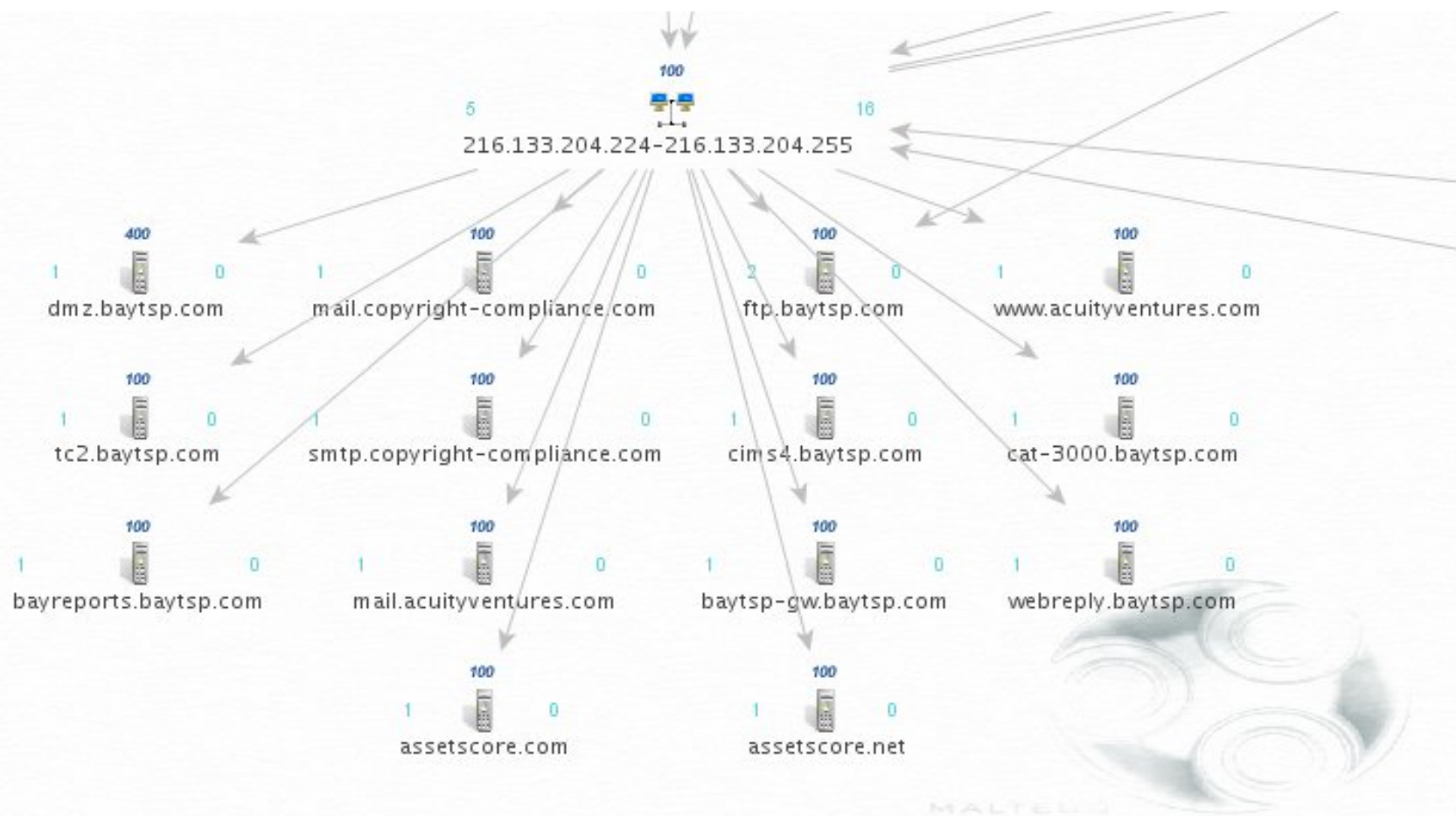


Carnal Ownage



Maltego

- See shared domains (copyright-compliance, baytsp.net, baytsp.com, assetscore.com, etc)

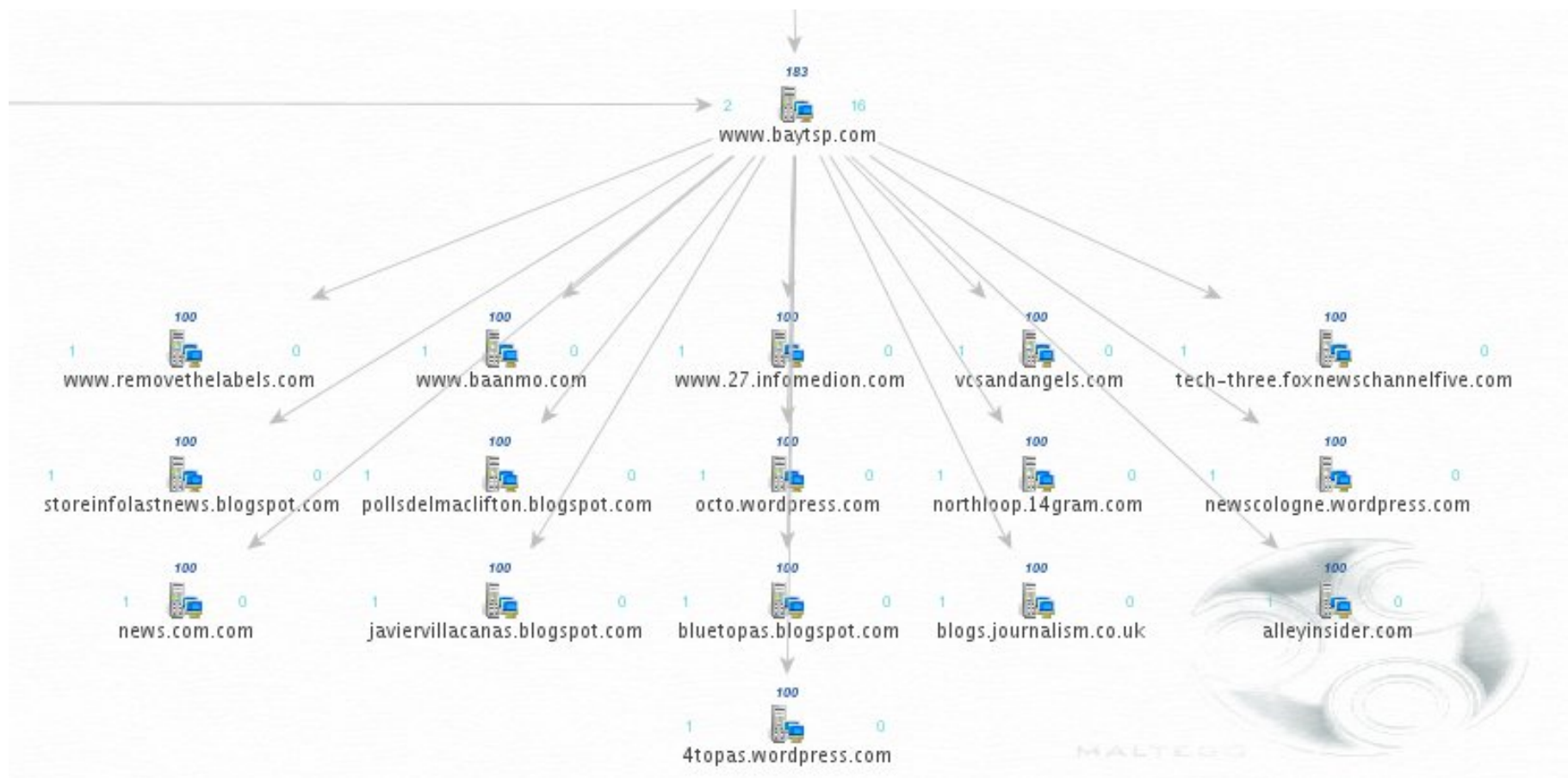


Carnal Ownage



Maltego

- Incoming links



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Declassify on: OADR
b7c



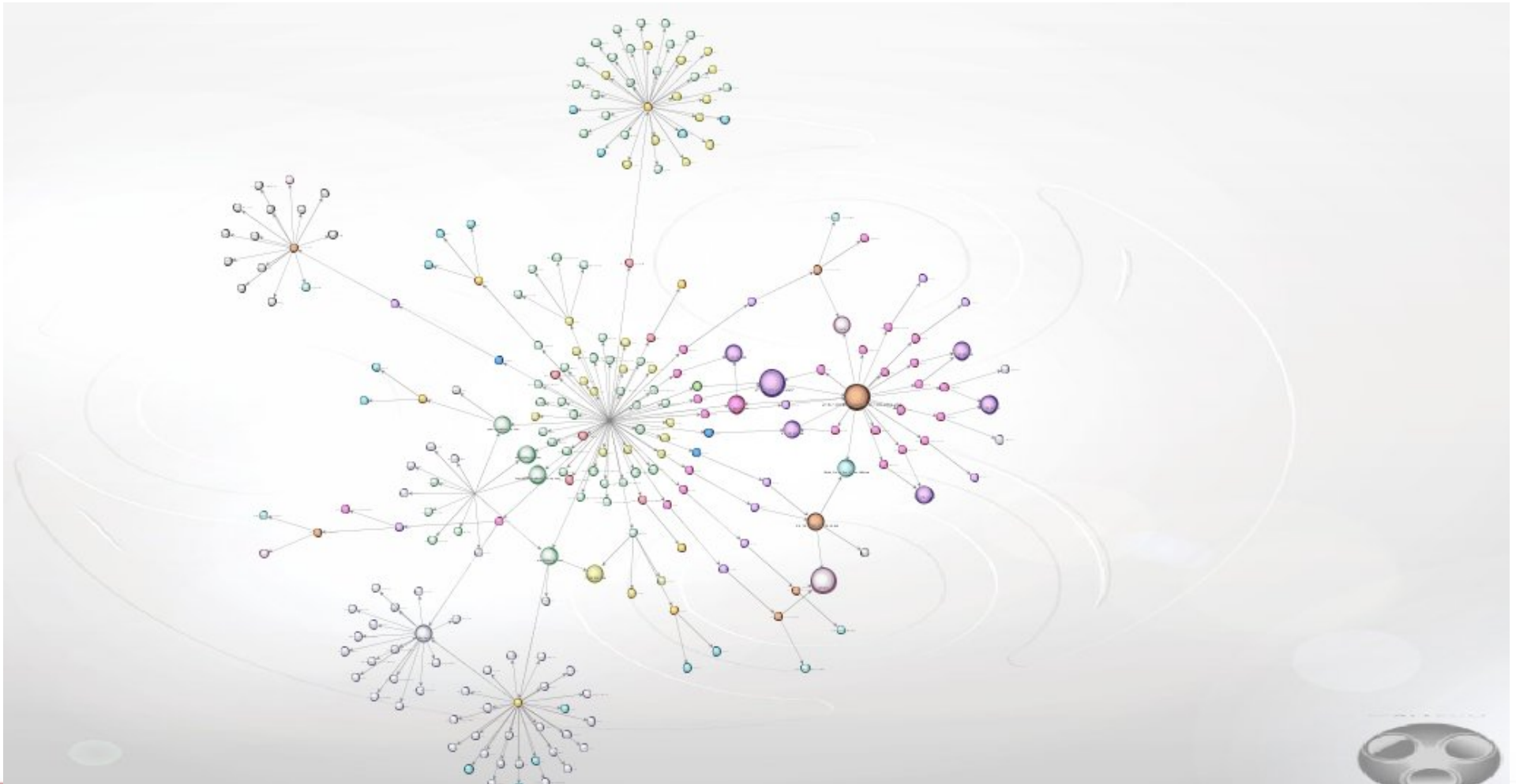
- Sort your views to see relationships

Carnal Ownage



Maltego

- Sort your views to see relationships



Carnal Ownage

Classified by ~~SECRET~~ b7C
Declassify on: OADR
EX-1018-1948 CRR



Maltego

- What else can Maltego do?
 - Technorati transforms, blog tags, search blogs for phrases
 - Incoming links, who links to your domain
 - Social network transforms; find a name, find their email, blog, phone number, etc
 - Print graphs on several pages
 - Can export the data into .csv, can save the maltego file and be opened by any other maltego instance
 - Save pieces of graphs as images
 - Can write your own transforms or stand up your own server.
- ** version 2 is for pay but cheap \$430 USD for first year

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So What?

- Ok lots of information what did I get from all of it?
 - If you are allowed to send social engineered emails or do client side attacks, you have an initial target list of email addresses. Using email dossier/maltego I can verify working email addresses. I only need one person to open/click that email for my foothold.
 - Naming conventions, users and offices, phone numbers, relationships between organizations
 - Target organization's IP Space and footprint. VPN server's IP, Terminal/Citrix server IPs, firewall's IP, etc.
 - Software versions of software that is typically targeted in client side attacks (MS office)
 - Using Maltego we see the relationships between our site and other sites in addition to the above.
 - All gained without your typical definition of "scanning"

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b7c



Questions?

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<http://carnal0wnage.blogspot.com>

<http://www.learnsecurityonline.com>

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