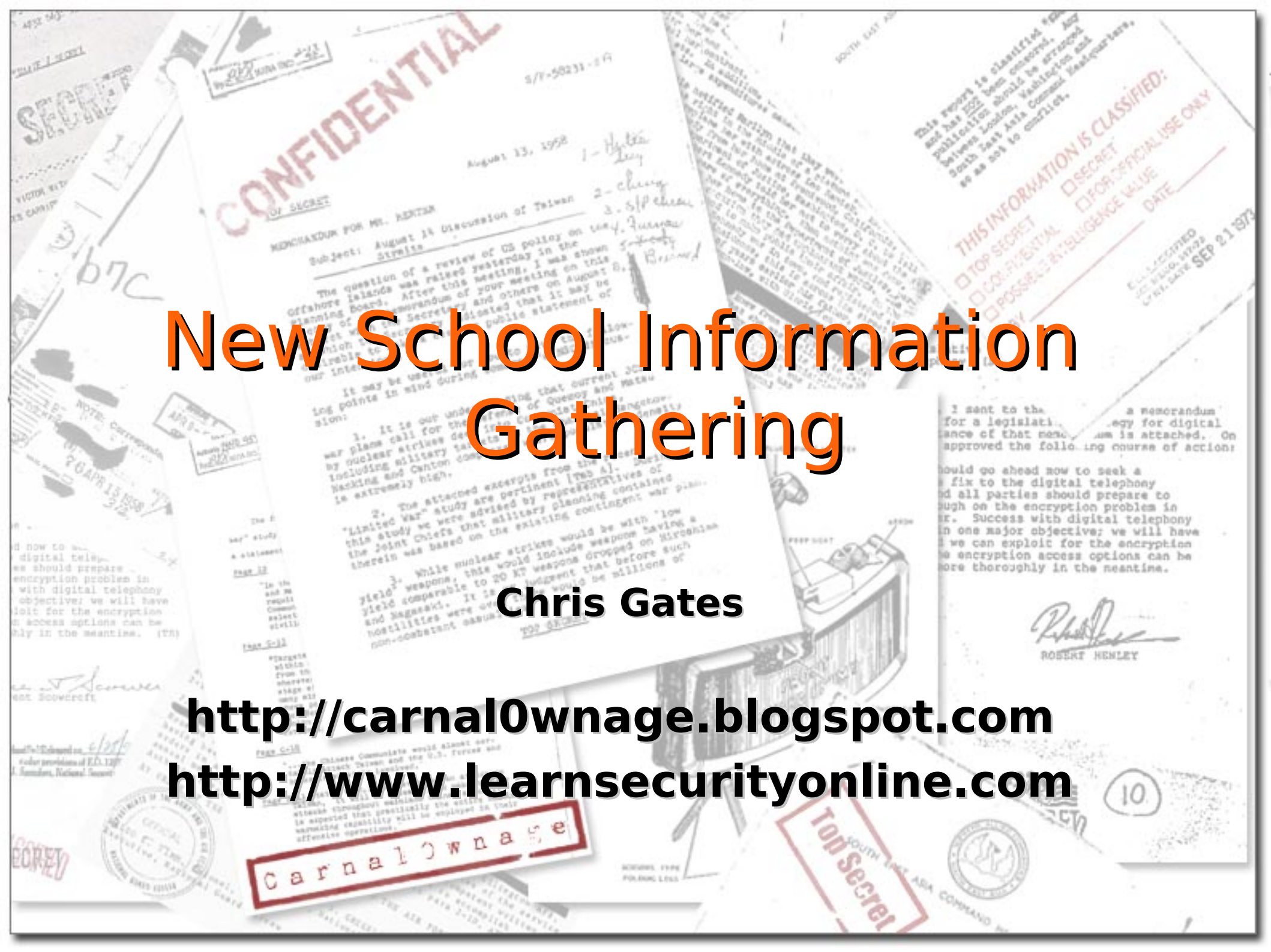


New School Information Gathering

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 Ownage

Standard Disclaimer

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

Carnal Ownage

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

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.

This is what you get:

baytsp.com

Carnal Ownage

11/10/94
Classified by [redacted] b7C
Declassify on: OADR
CA# 94-1720 CRR

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?

Carnal Ownage

New School?

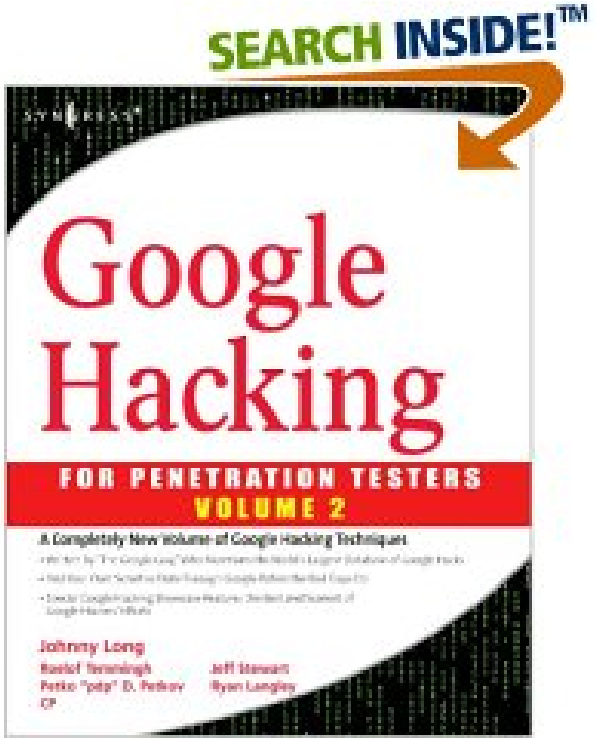
- New School, just a “new” way of looking at Information Gathering, less just discovering network blocks with whois and more take a “full spectrum” look at your target.
- OSINT, Open Source Intelligence
  - Out on the net for everyone to find, if you know what to look for
  - Domain Names
  - Files containing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

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

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.



Verify Web Presence

Carnal Ownage

Classified by [redacted] b7C
Declassify on: 20[illegible]
CA# 94-1720 CRR

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

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

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

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!

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

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

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.

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
```

Fierce DNS

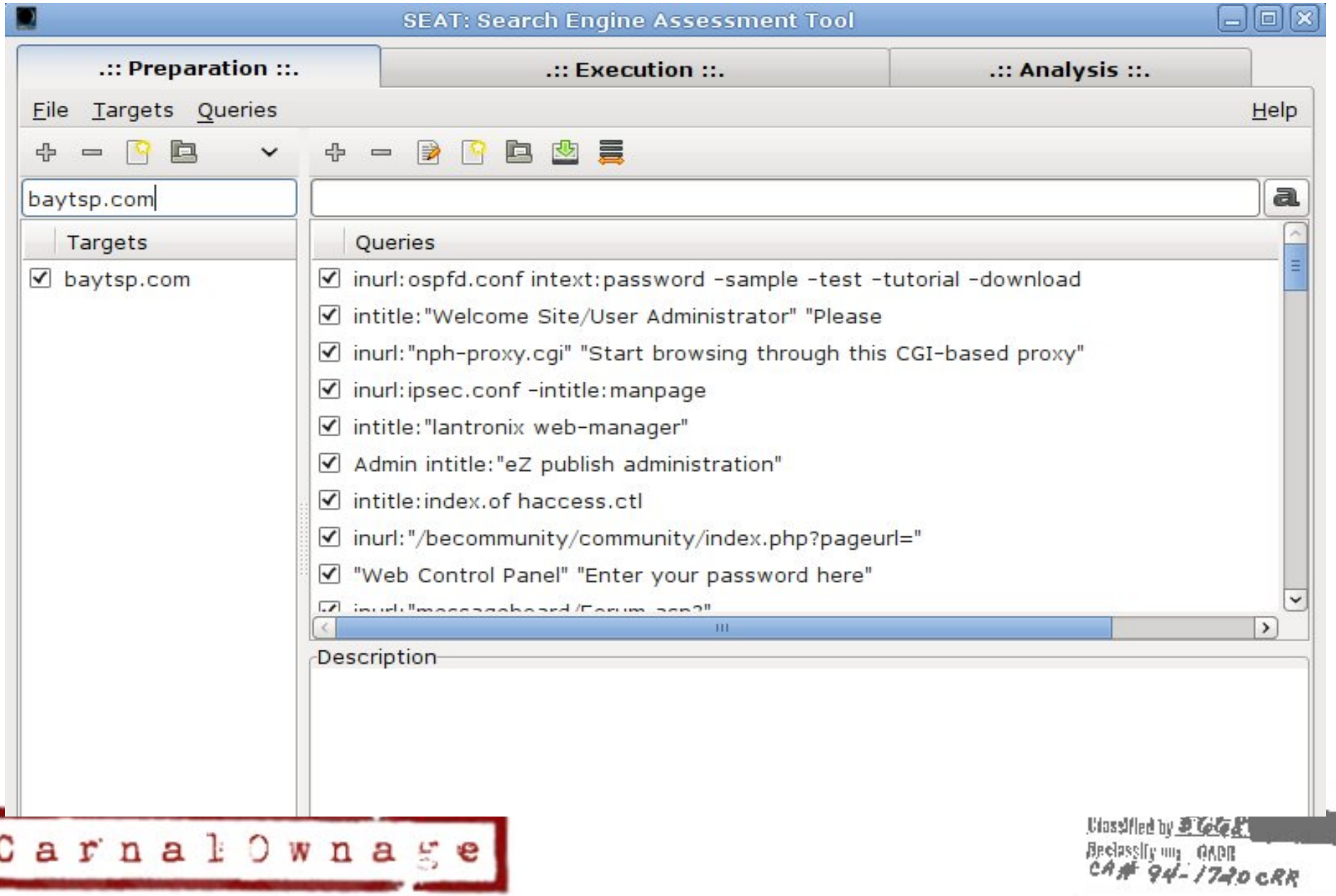
```
216.133.204.246 dmz.baytsp.com
216.133.204.247 dmz.baytsp.com
216.133.204.248 dmz.baytsp.com
216.133.204.249 dmz.baytsp.com
216.133.204.250 dmz.baytsp.com
216.133.204.251 dmz.baytsp.com
216.133.204.252 dmz.baytsp.com
216.133.204.253 dmz.baytsp.com
216.133.204.254 dmz.baytsp.com
216.133.204.255 dmz.baytsp.com
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.
```

Search Engine Tools

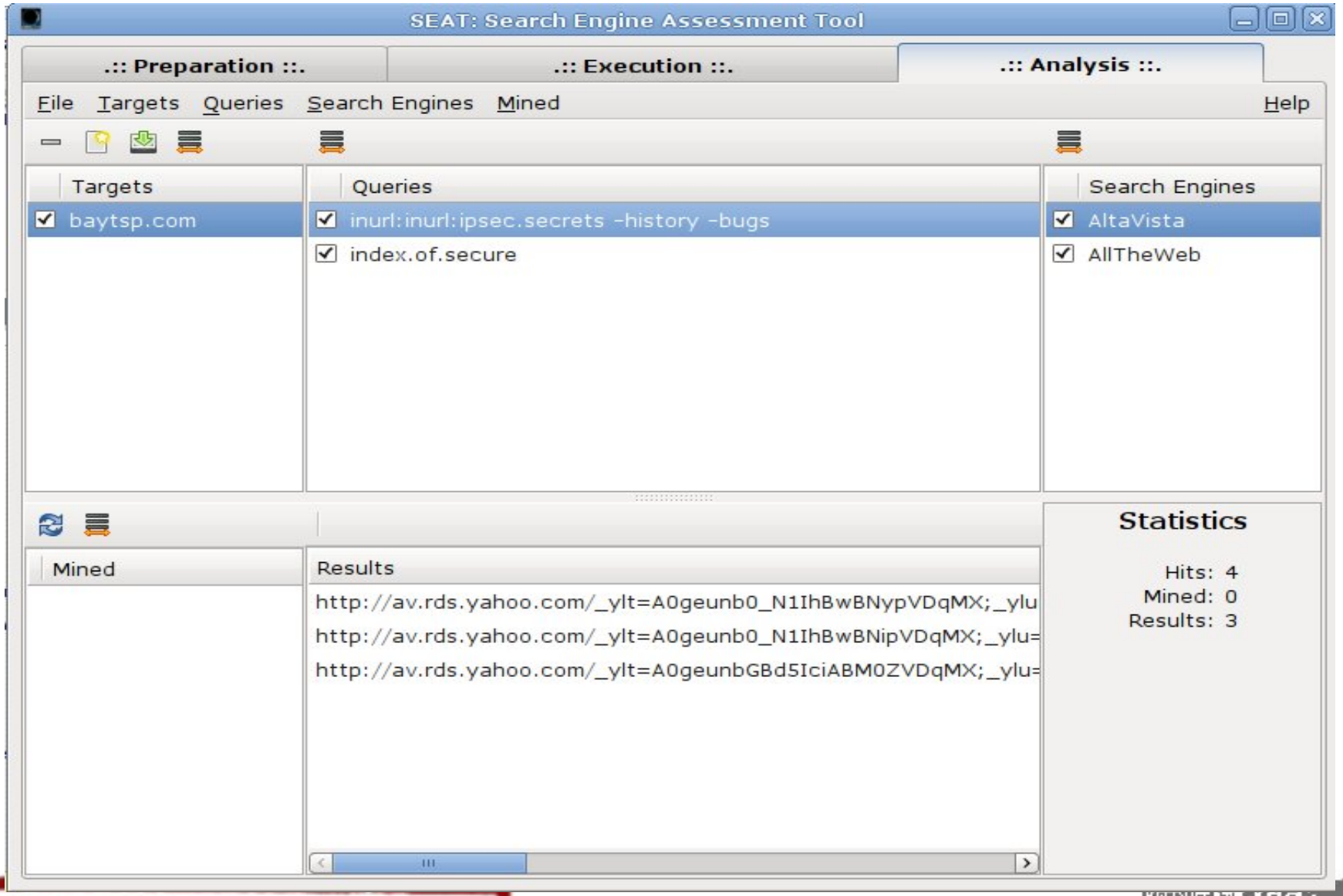
SEAT (Search Engine Assessment Tool)

- 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 steriods ☺

SEAT (Search Engine Assessment Tool)



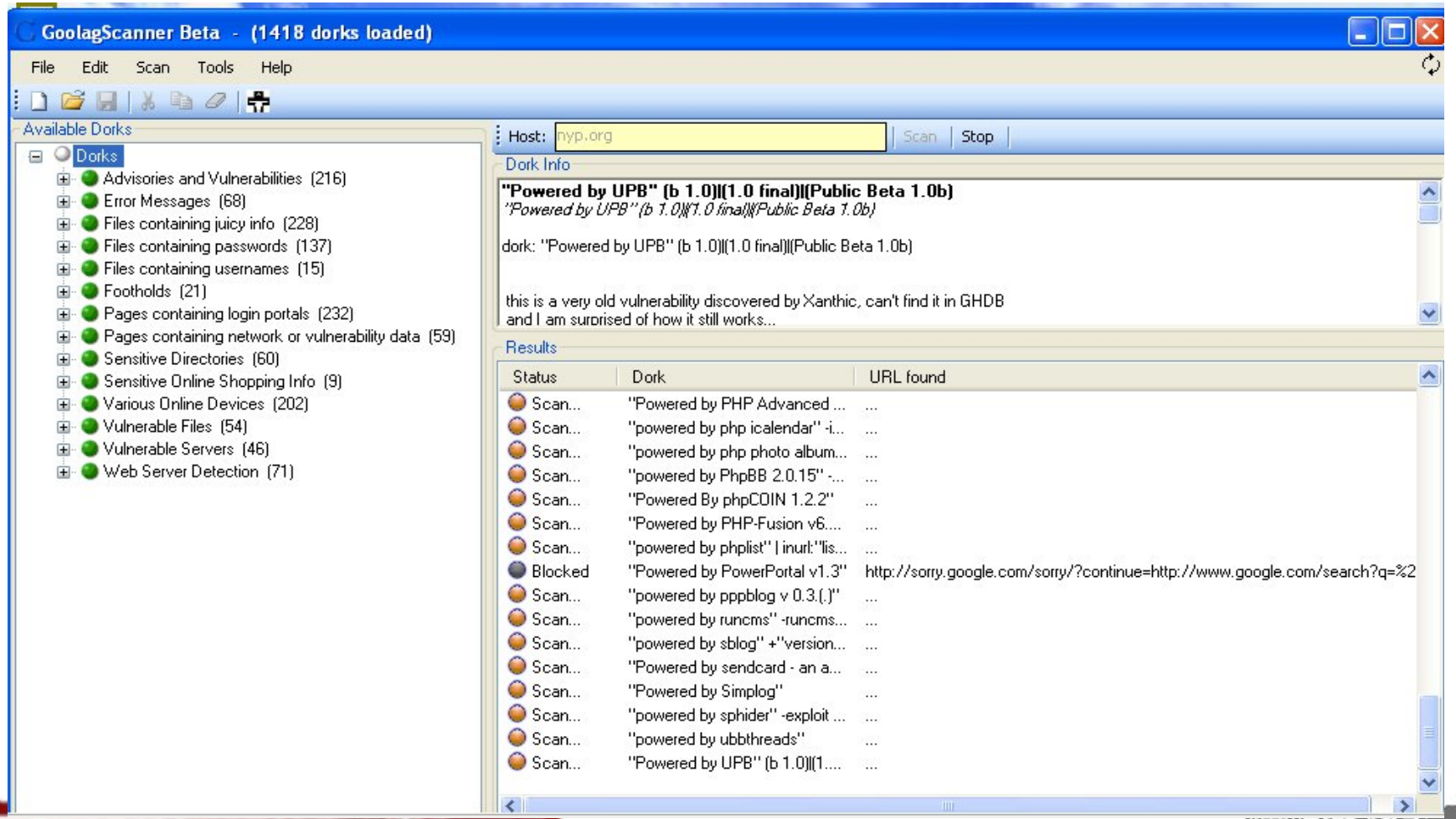
SEAT (Search Engine Assessment Tool)



Carnal Ownage

Goolag

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



Email Harvesting

Google Mail Harvesters

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

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
```

Carnal Ownage

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
```

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_6dnX21wqTwt8_dRVn-hQ@baytsp.com
seanr@baytsp.com
noc@baytsp.com
paramount-pictures@baytsp.com
info@baytsp.com
BoGdnd2cesf37x7eRVn-tA@baytsp.com
baytsp.com
QZOdnYUwQpCYmPPd4p2dnA@baytsp.com
...paramount-pictures@baytsp.com
jimg@baytsp.com
ktWdnQ9AD6NnUOHeRVn-pQ@baytsp.com
Paramount.comlawrencel@baytsp.com
steves@baytsp.com
sarahb@baytsp.com
tracieg@baytsp.com
Marki@baytsp.com

Total_accounts: 25
```

b7C

CA# 94-1720 CRR

Document Metadata Extraction

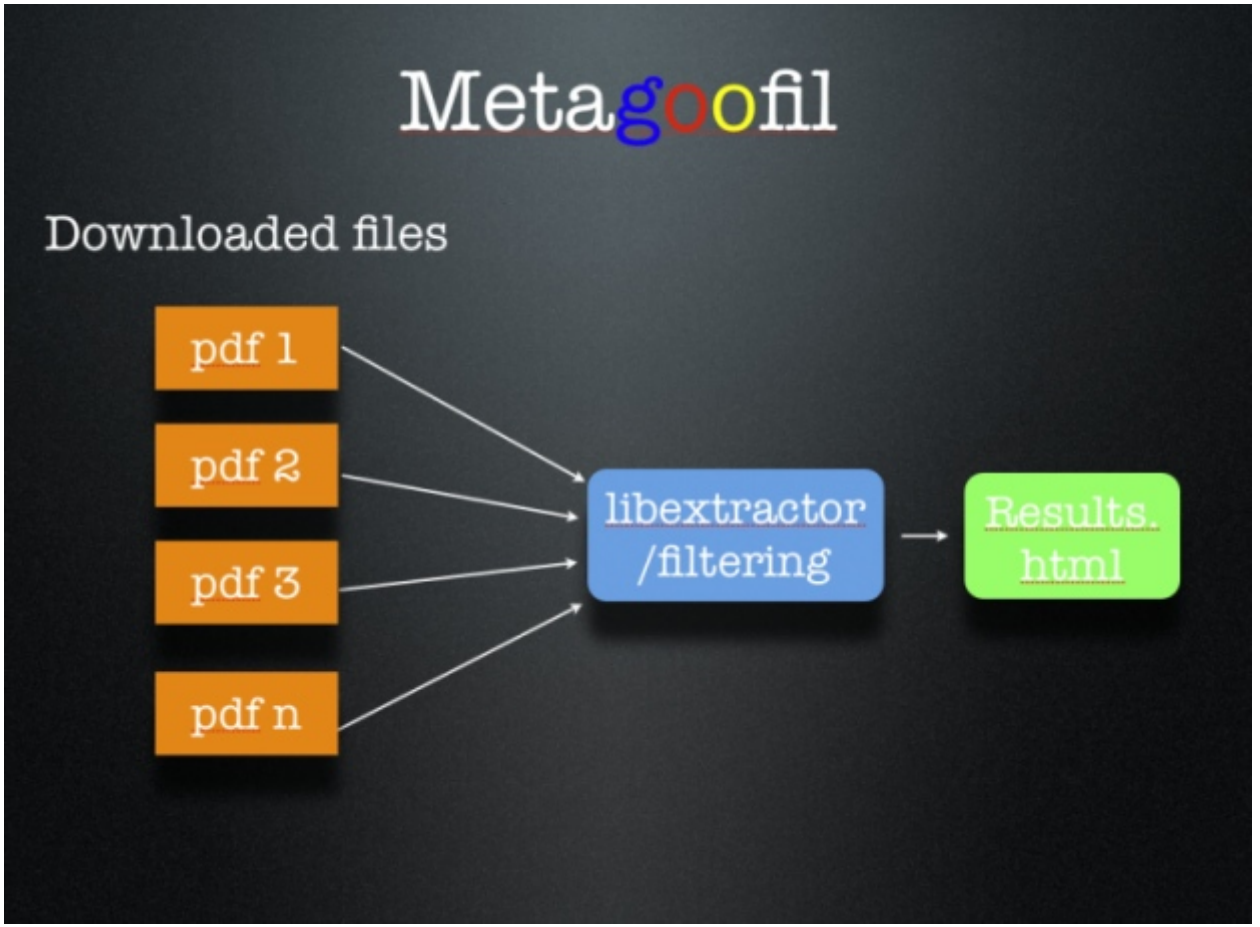
Metagoofil

- 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.

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.”

Metagoofil



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 baysp-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
```

Carnal Ownage

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
```

Metagoofil

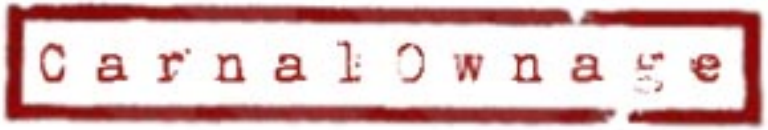
Local copy Open

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
```

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.**



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.

On-line Tools

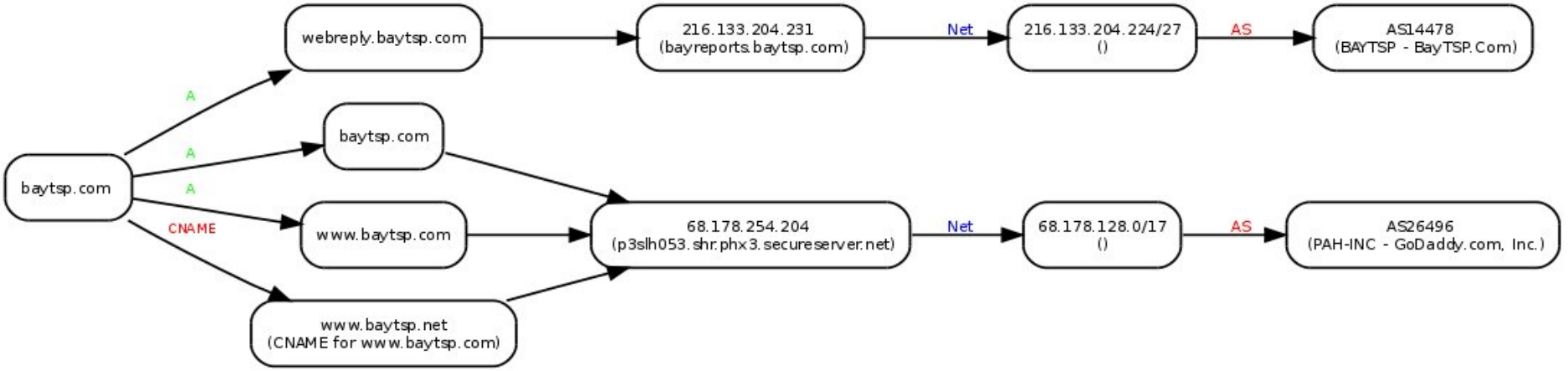
ServerSniff.net

- 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

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

ServerSniff.net

Domains on Nameserver

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

Please enter a domainname or nameserver to lookup: baytsp.com

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...

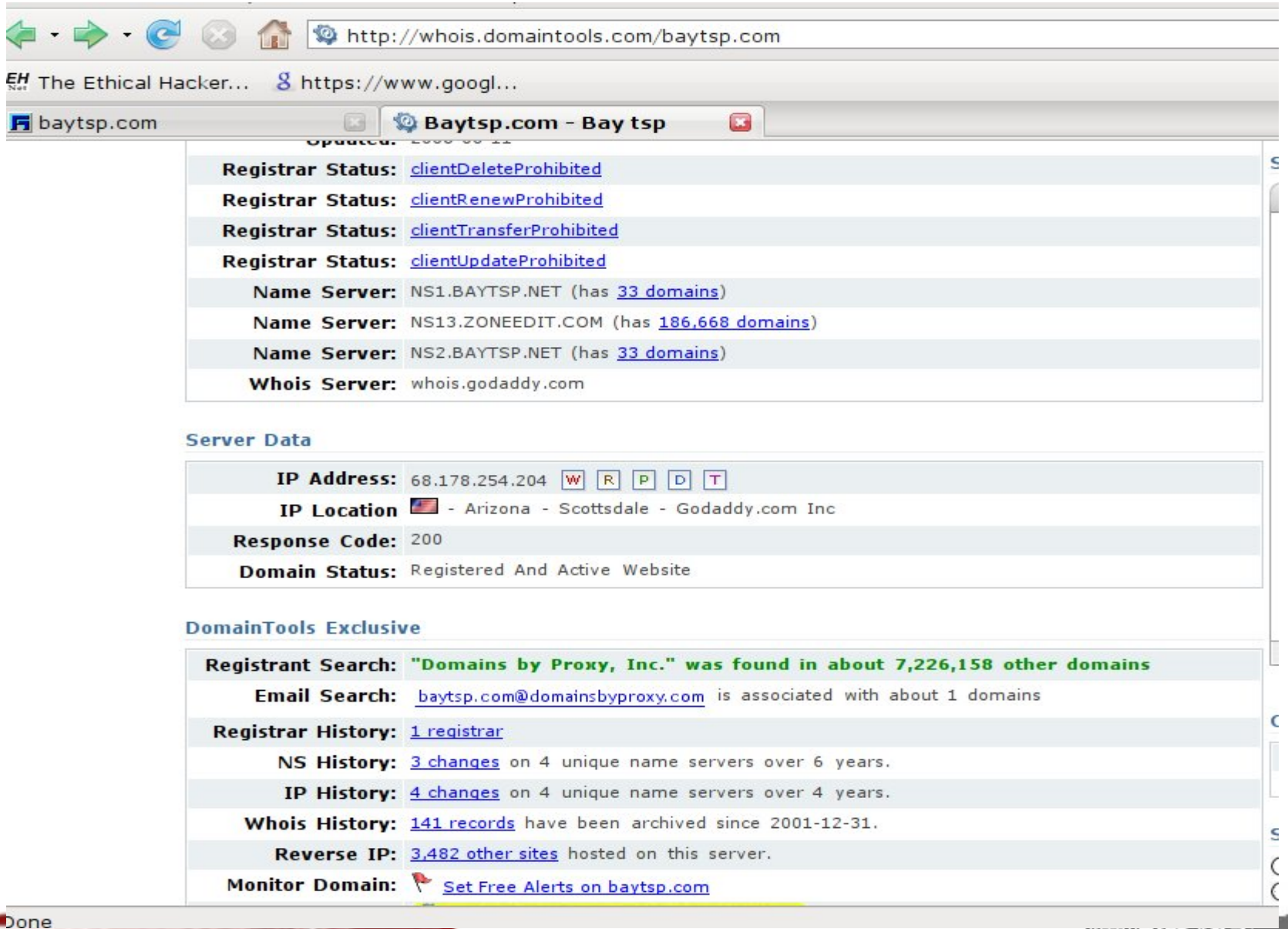
1 [nscat] [dnr] [nsr] **acuityventures.com** www
2 [nscat] [dnr] [nsr] **copyrightguardian.net** www
3 [nscat] [dnr] [nsr] **assetscore.com** www
4 [nscat] [dnr] [nsr] **baytsp.com** www
5 [nscat] [dnr] [nsr] **copyright-compliance.com** www
6 [nscat] [dnr] [nsr] **copyrightspider.net** www
7 [nscat] [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!)

DomainTools.com

- http://www.domaintools.com/

DomainTools.com



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 :-(

CentralOps.net

- http://centralops.net/co/

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 email: noc.baytsp.net serial: 2008090901 refresh: 28800 retry: 14400 expire: 3600000 minimum ttl: 86400	86400s (1.00:00:00)
baytsp.com	IN	TXT	v=spf1 mx include:baytsp.net -all	86400s (1.00:00:00)
baytsp.com	IN	MX	preference: 10 exchange: mail.baytsp.net	86400s (1.00:00:00)
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)

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

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

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

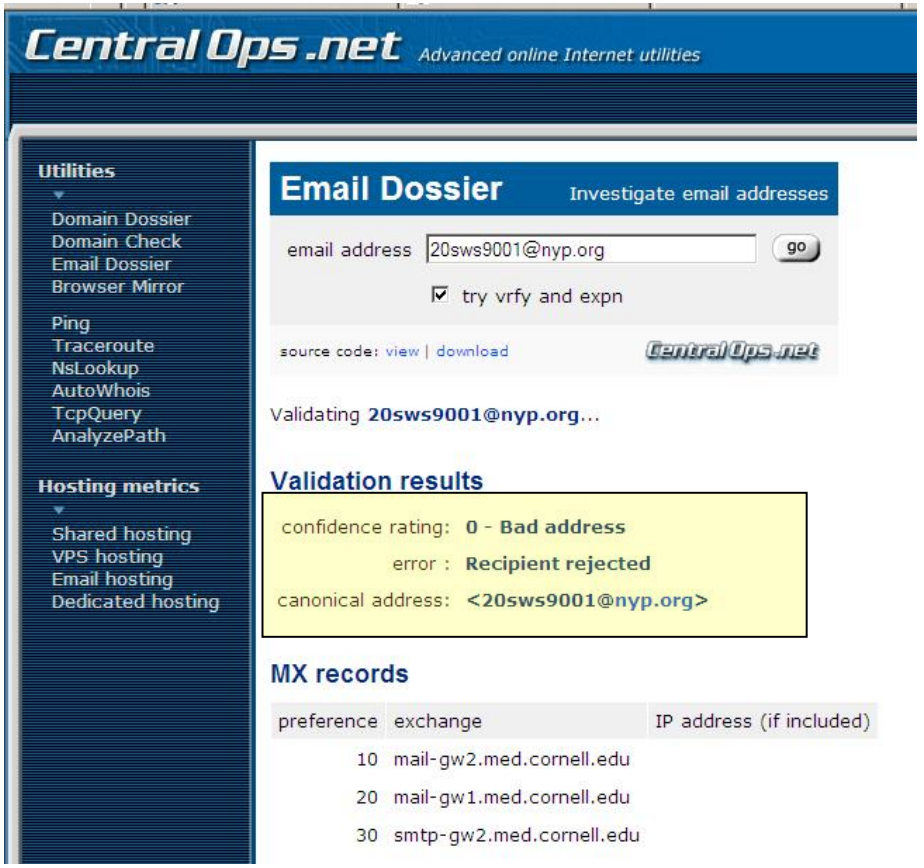
SMTP session

```
[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
```

Carnal Ownage

CentralOps.net

- Email Verification (failure)



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.
```

Carnal Ownage

CentralOps.net

- Email Verification (success)

Email Dossier Investigate email addresses

email address nursingsce@nyp.org 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

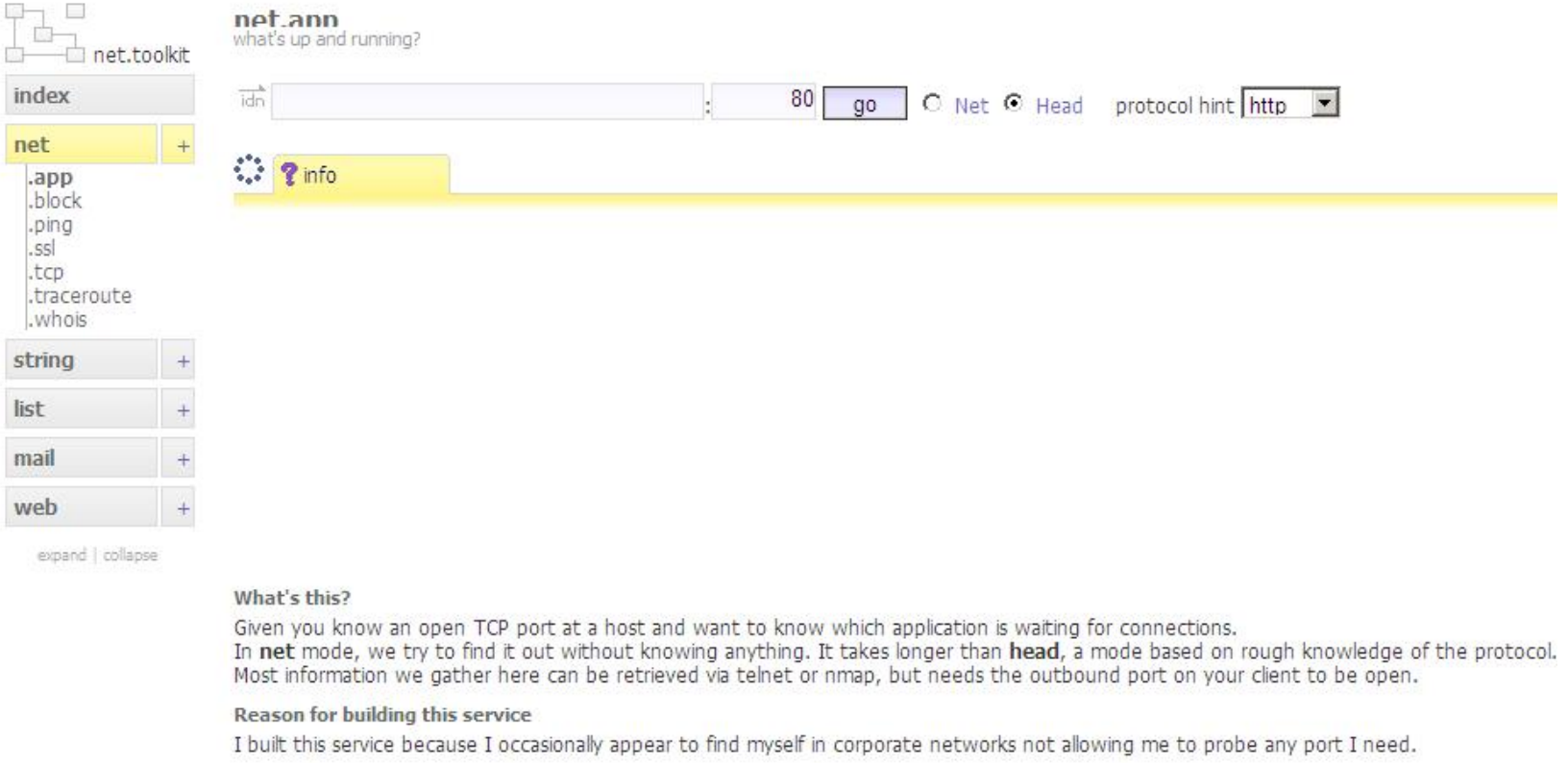
preference	exchange	IP address (if included)
10	mail-gw2.med.cornell.edu	[140.251.3.2]
20	mail-gw1.med.cornell.edu	[140.251.3.44]
30	smtp-gw2.med.cornell.edu	[157.139.3.45]

SMTP session

```
[Contacting mail-gw2.med.cornell.edu [140.251.3.2]...]
[Connected]
220 mail-gw2.med.cornell.edu -- Server 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 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]
```

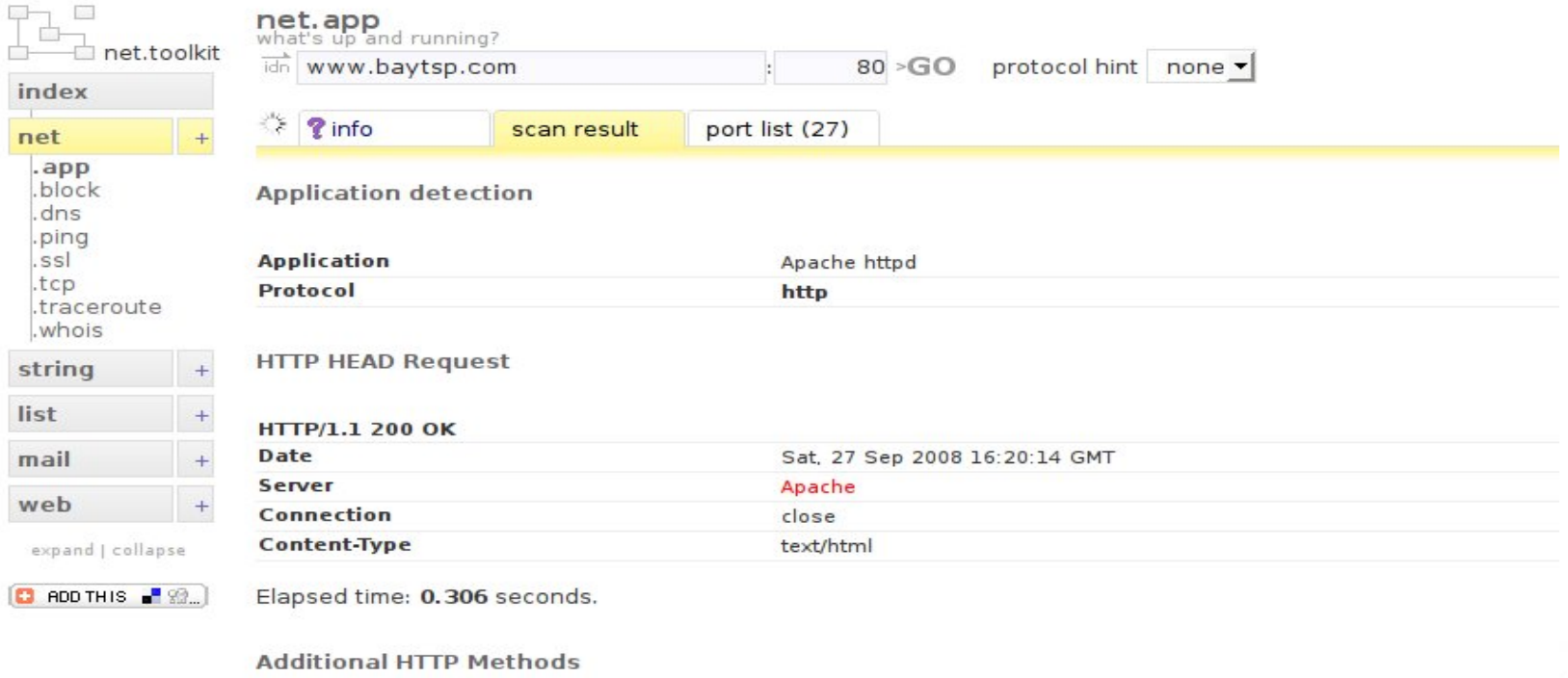
Clez.net

- http://clez.net/net



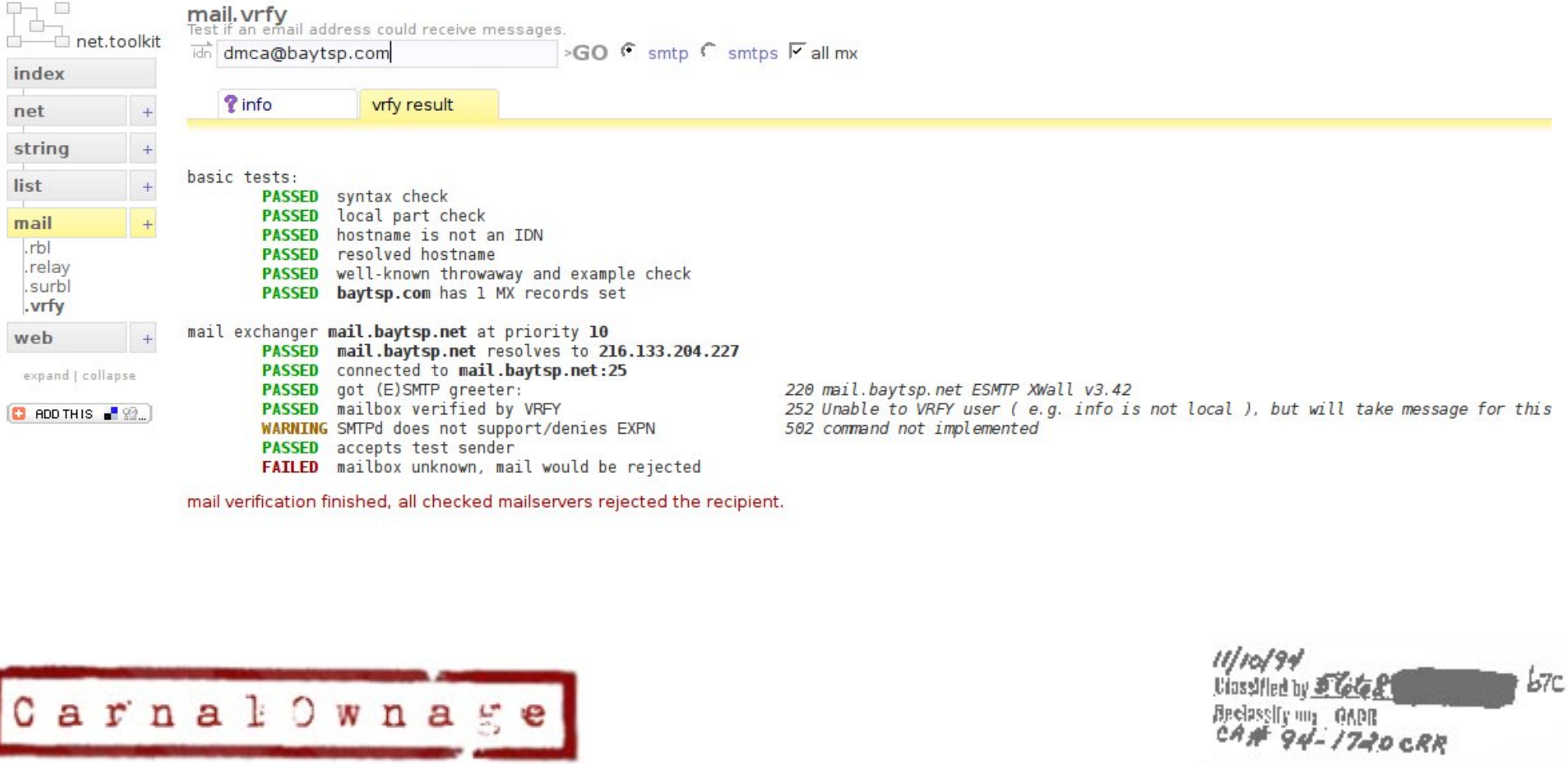
Clez.net

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



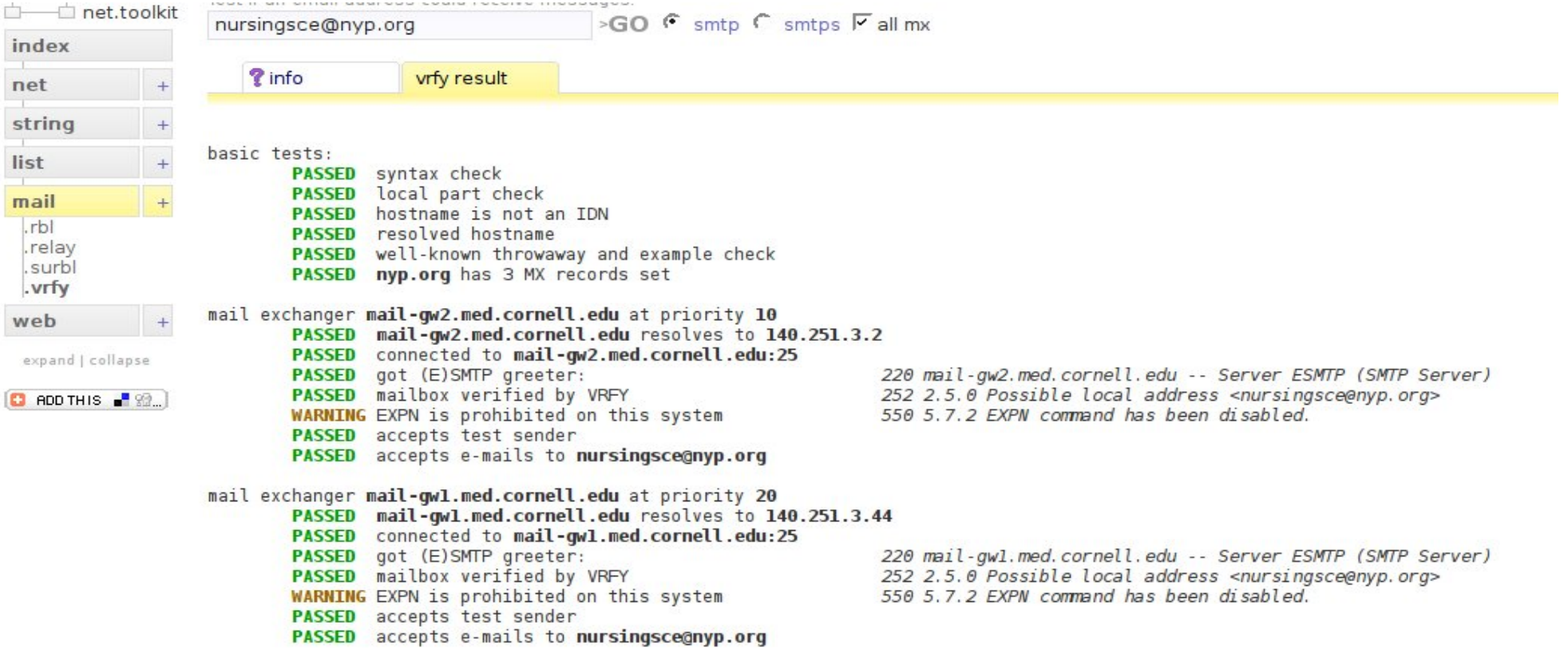
Clez.net

- Email Verification



Clez.net

- Email Verification



Carnal Ownage

Clez.net

- Email Verification

Carnal Ownage

11/10/94
Classified by [redacted] b7C
Declassify on: OADR
CA# 94-1720 CRR

Robtex

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

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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.

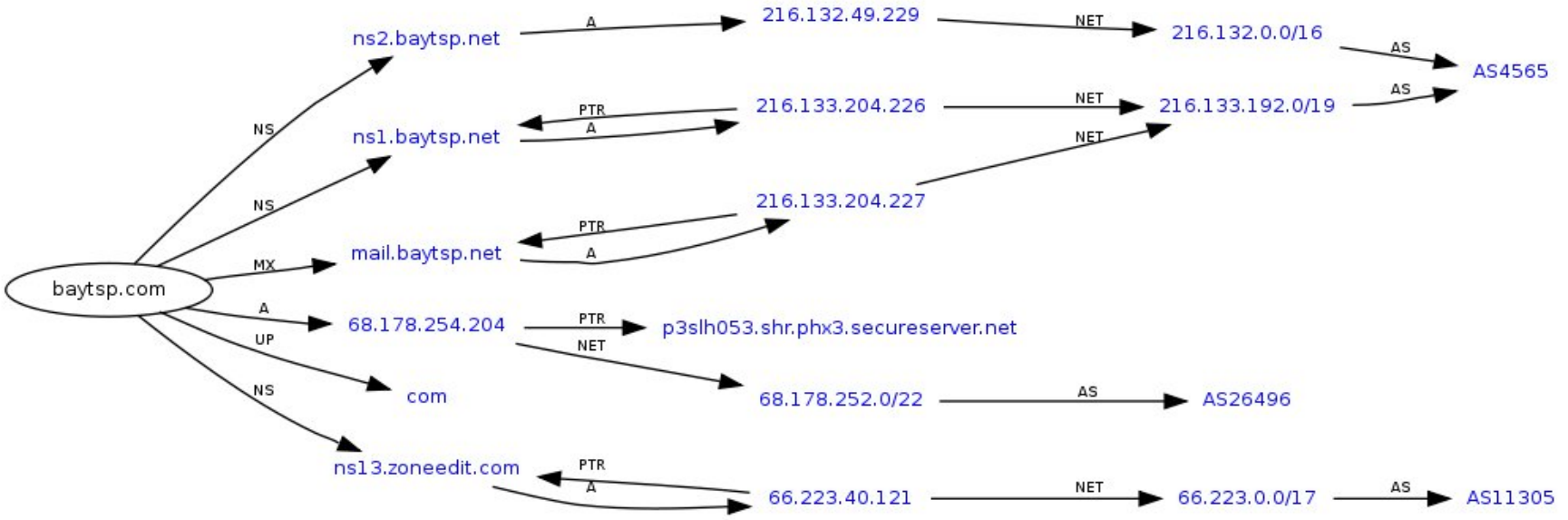
base	record	name	ip	reverse	route	as
baytsp.com	a		68.178.254.204 Apache	p3slh053.shr.phx3.secureserver.net	68.178.252.0/22	AS26496 PAH-INC Go Daddy Software, Inc.
	ns	ns13.zoneedit.com	66.223.40.121 dns	-	66.223.0.0/17 66.223.0.0~66.223.127.255	AS11305 INTERLAND-NET1 Interland Incorporated
		ns1.baytsp.net	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	

Carnal Ownage

11/10/94
Classified by [redacted] b7C
Declassify on: OADR
CA# 94-1720 CRR

Robtex

net gtld-servers.net baytsp.net zoneedit.com phx3.secureserver.net shr.phx3.secureserver.net secureserver.net



hostnames sharing ip with a-records	hostnames beginning with baytsp	hostnames sharing ip indirectly via cnames	domains sharing mailservers	domains sharing nameservers	subdomains
1cialissource.net	baytsp.co.uk	www.hegstrom.com	assetscore.net	abeltek.com	*.baytsp.com
1cialisstop.net	baytsp.fe4-5.ar1.sfo2.infraswitch.r		baytsp.net	adsl2pluss.net	69-22-140-161.baytsp.co
1levitrasource.net	baytsp.net		copyright-compliance.com	aeonsystems.org	69-22-140-162.baytsp.co
1levitrastop.net			copyright-guardian.com	aimteam.com	69-22-140-163.baytsp.co
					69-22-140-164.baytsp.co

spoke.com

- Search for people locate their company
- Search for companies and retrieve names

People Search Results

Your Search: baytsp.com

Show Details | Save As... | Edit

28 total results

25 results per page | All dates (current jobs)

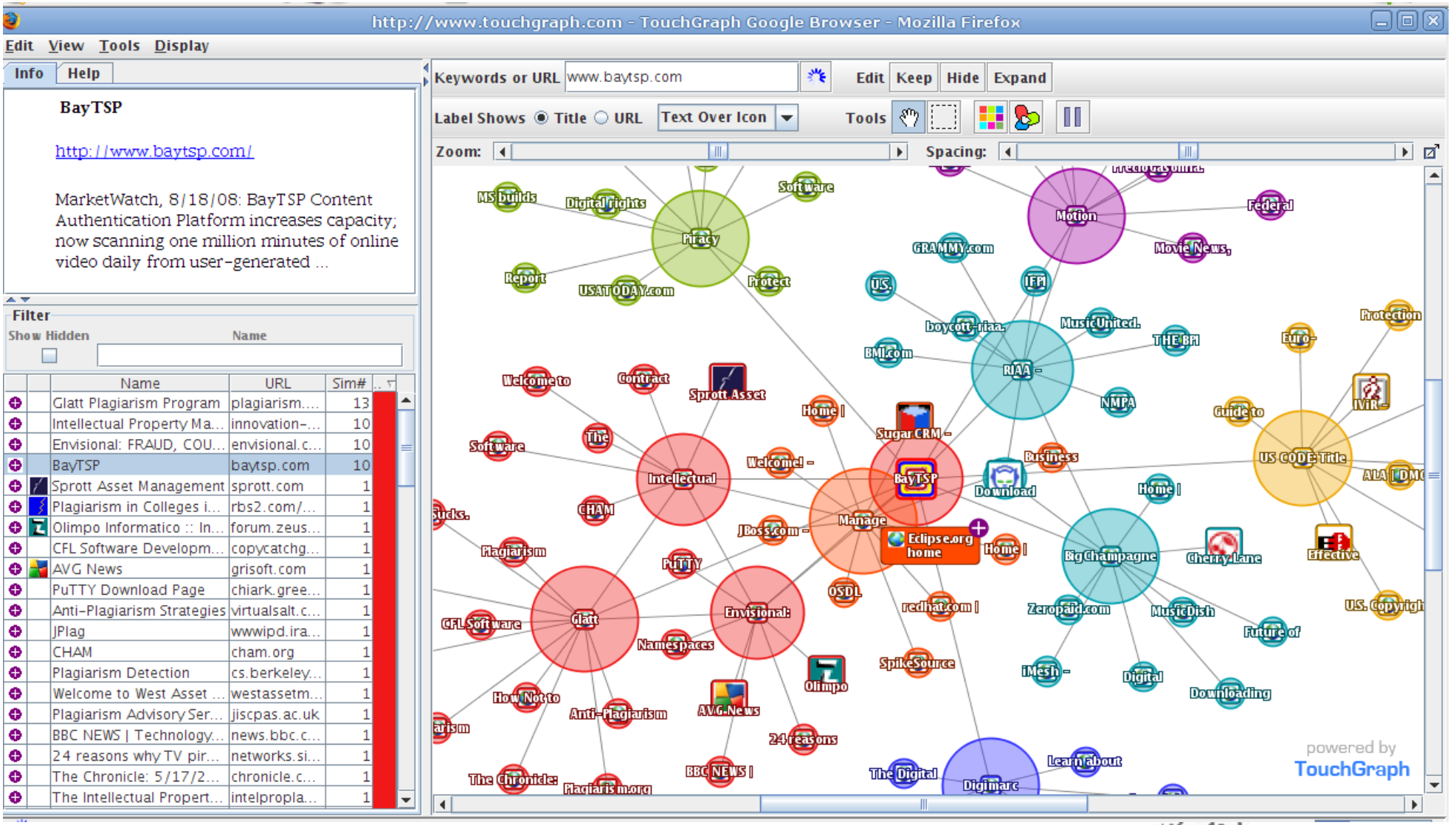
Add to SFA | Add to List | Add All to List | Export | 1 to 25 (of 28)

Name	Job Title		Company	Validated
Robert Sweeney	Chief Financial Officer	E-mail	Baytsp.Com Inc	6/2008
Mark Ishikawa	Chief Executive Officer	E-mail	Baytsp.Com Inc	6/2008
Leland Woo	Vp, Business Development *	E-mail	Baytsp.Com Inc *	6/2008
Richard Jorgensen	Director *	E-mail	Baytsp.Com Inc *	1/2008
Lawrence Low	Vp	E-mail	Baytsp.Com Inc	6/2008
Evelyn Espinosa	Chief Operating Officer Co-founder	E-mail	Baytsp.Com Inc	6/2008
John Salter	Vp, Product Development	E-mail	Baytsp.Com Inc	6/2008
Travis Hill	Vp, Engineering	E-mail	Baytsp.Com Inc	6/2008
Arielle Kim	Executive Administrator	E-mail	Baytsp.Com Inc	2/2005
Clifton Wong	Chief Financial Officer	E-mail	Baytsp.Com Inc	7/2007
Matt Sprague		E-mail	Baytsp.Com Inc	3/2007
Nicole Manske		E-mail	Baytsp.Com Inc	3/2008
Lloyd Payton		E-mail	Baytsp.Com Inc	2/2005

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.

TouchGraph



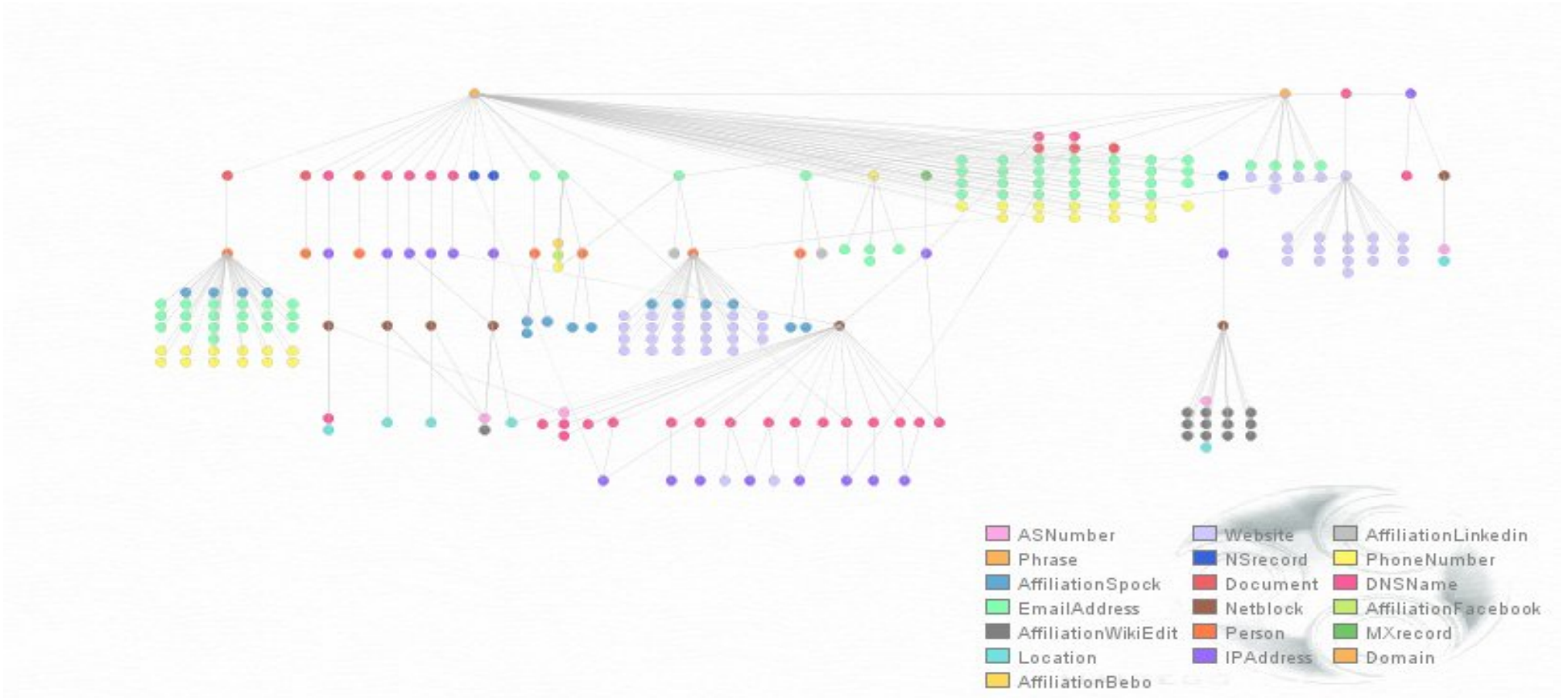
Carnal Ownage

11/10/94
Classified by [redacted] b7c
Declassify on: OADR
CA# 94-1720 CRR

Tying it all together with Maltego

Maltego

- What does this tell me about our target domain?



Carnal Ownage

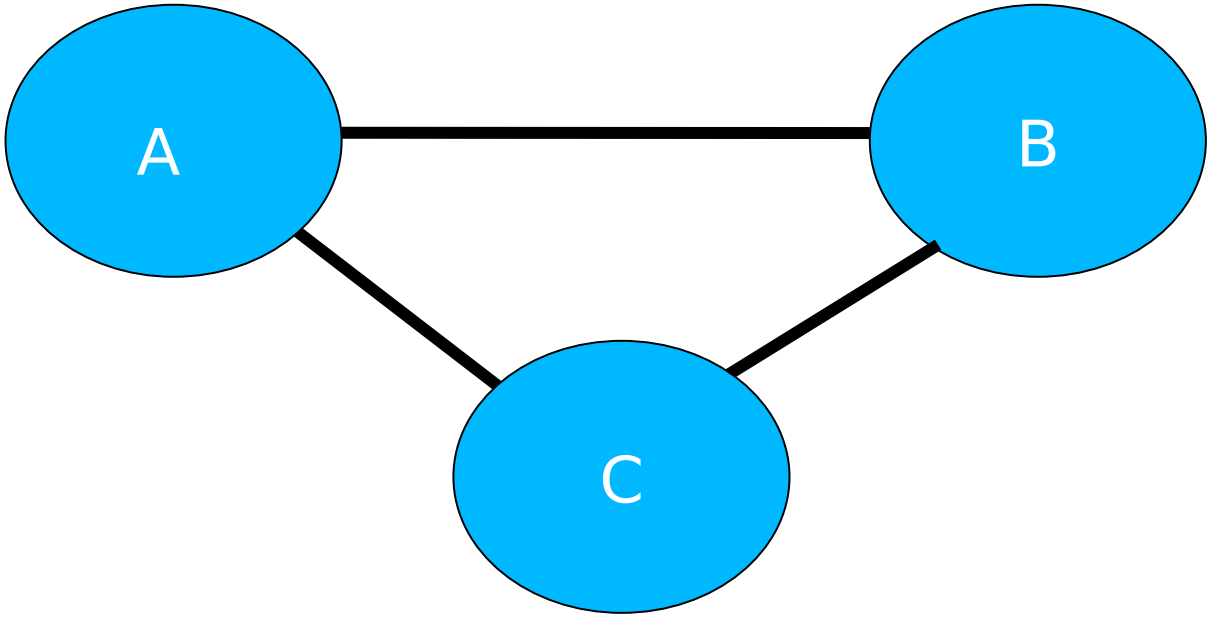
Maltego

- **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)

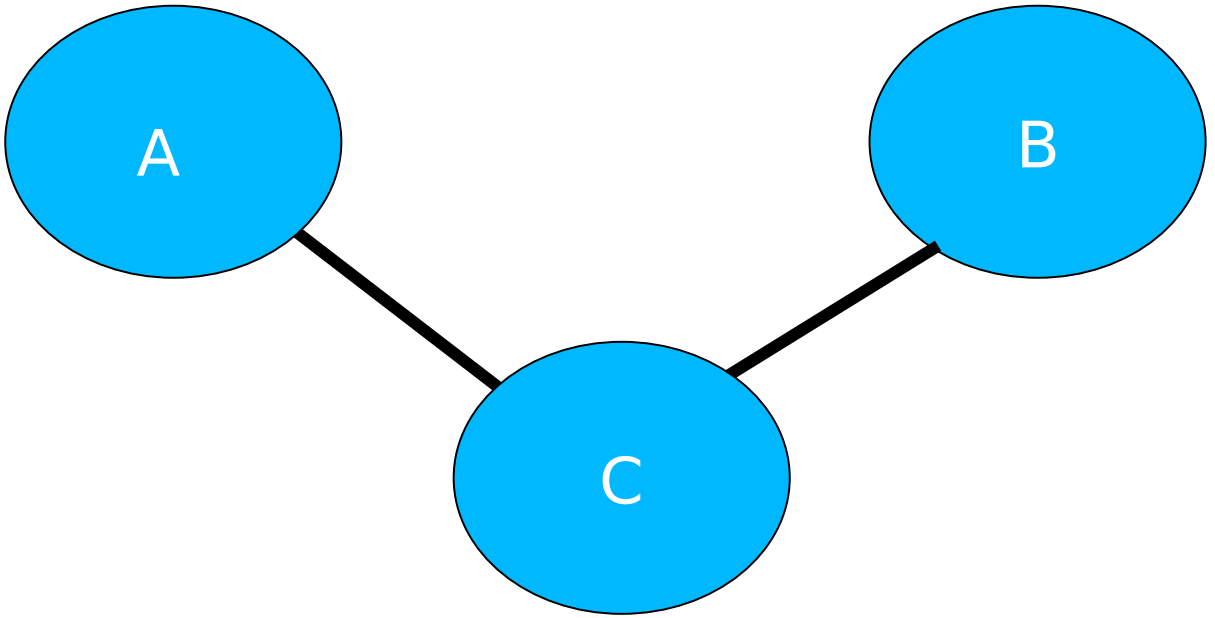
Maltego

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



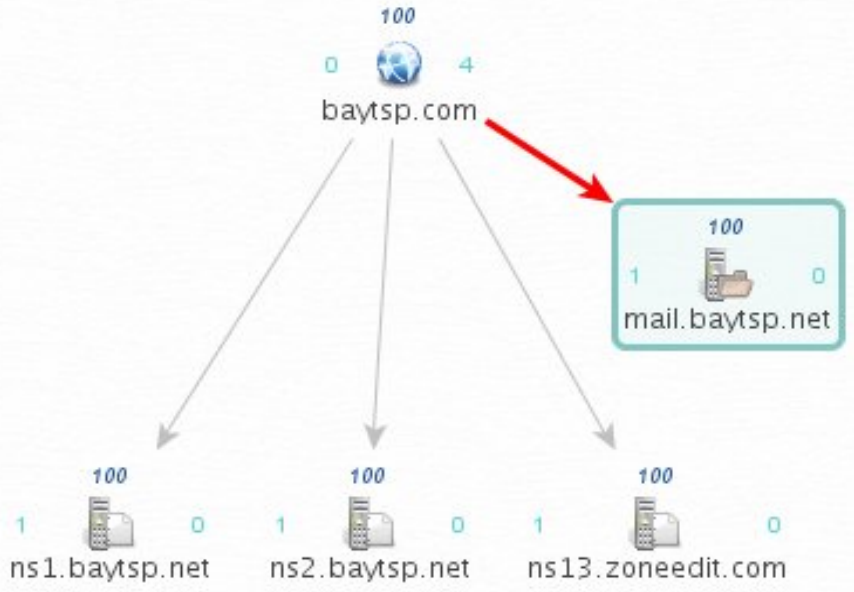
Maltego

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



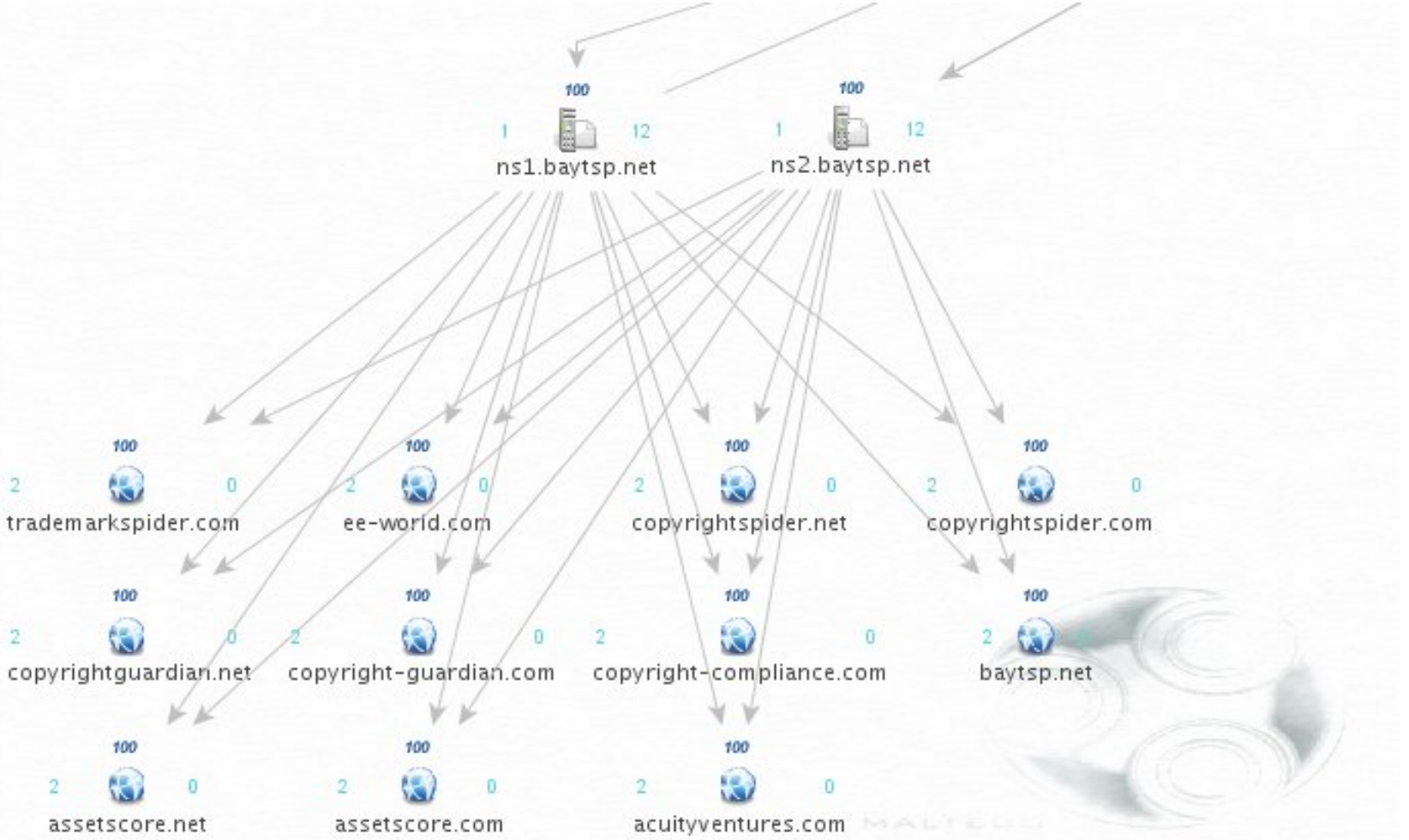
Maltego

- Find our MX and NS servers



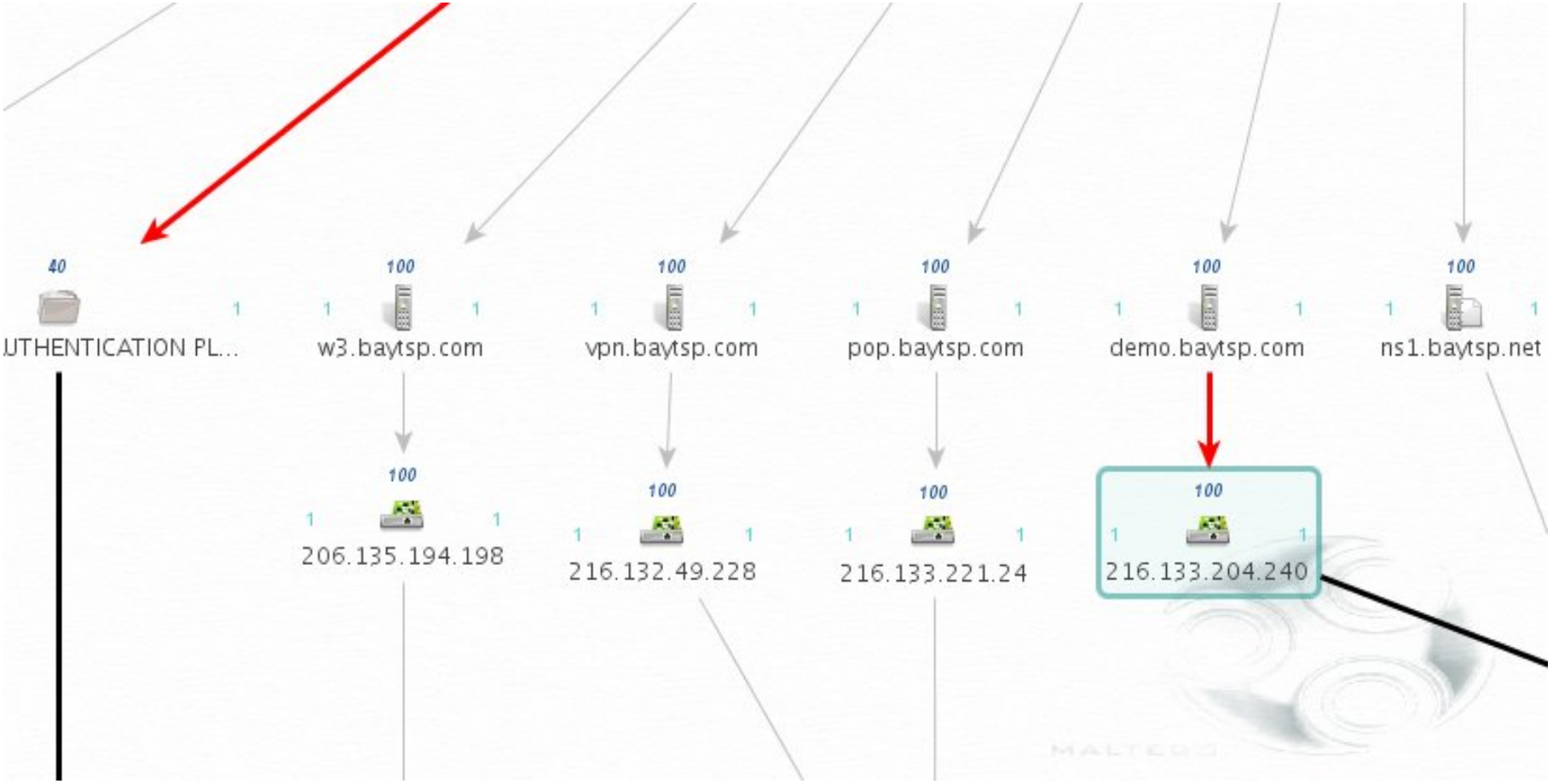
Maltego

- See what hostnames are shared by the DNS servers



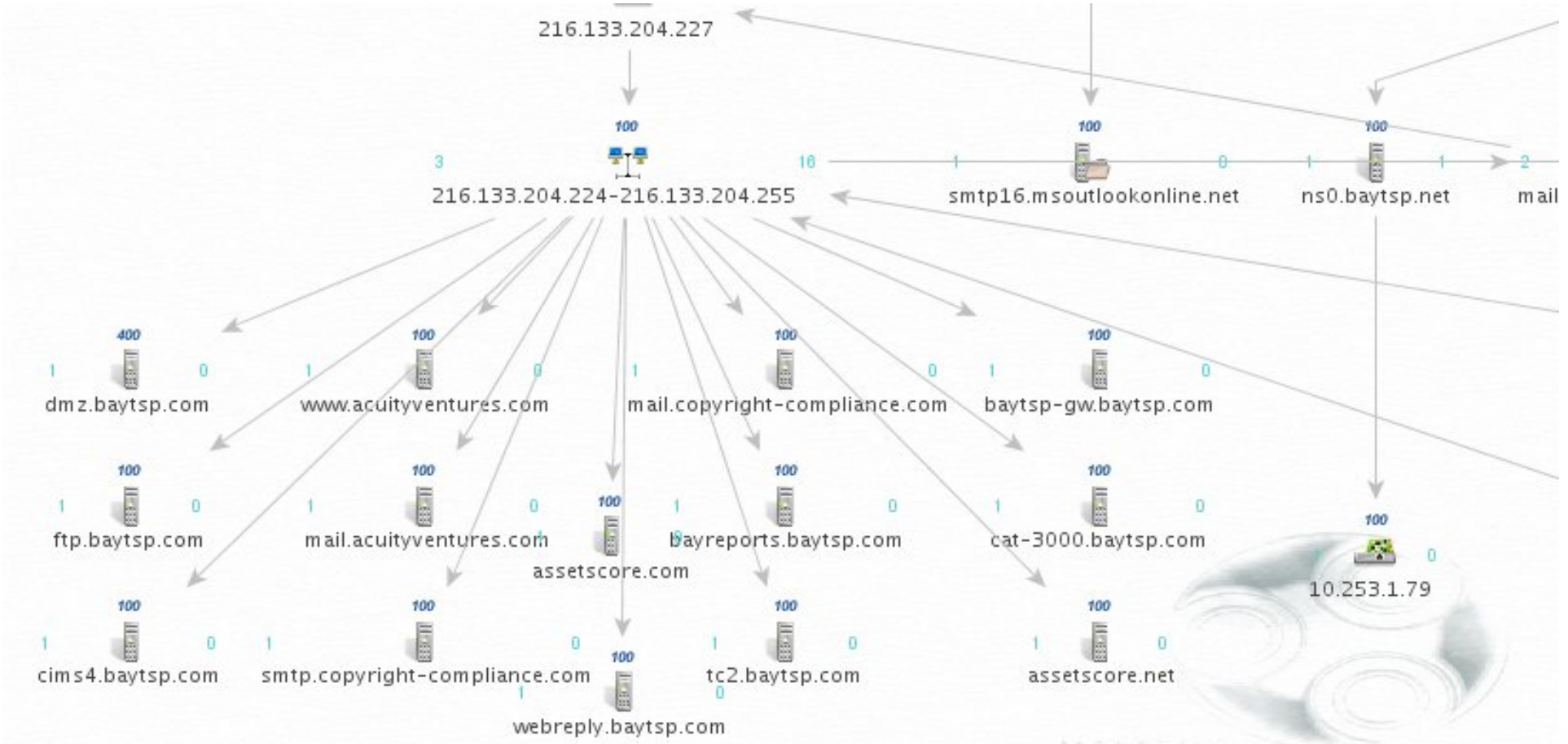
Maltego

- Brute force our domain names and resolve them to IPs



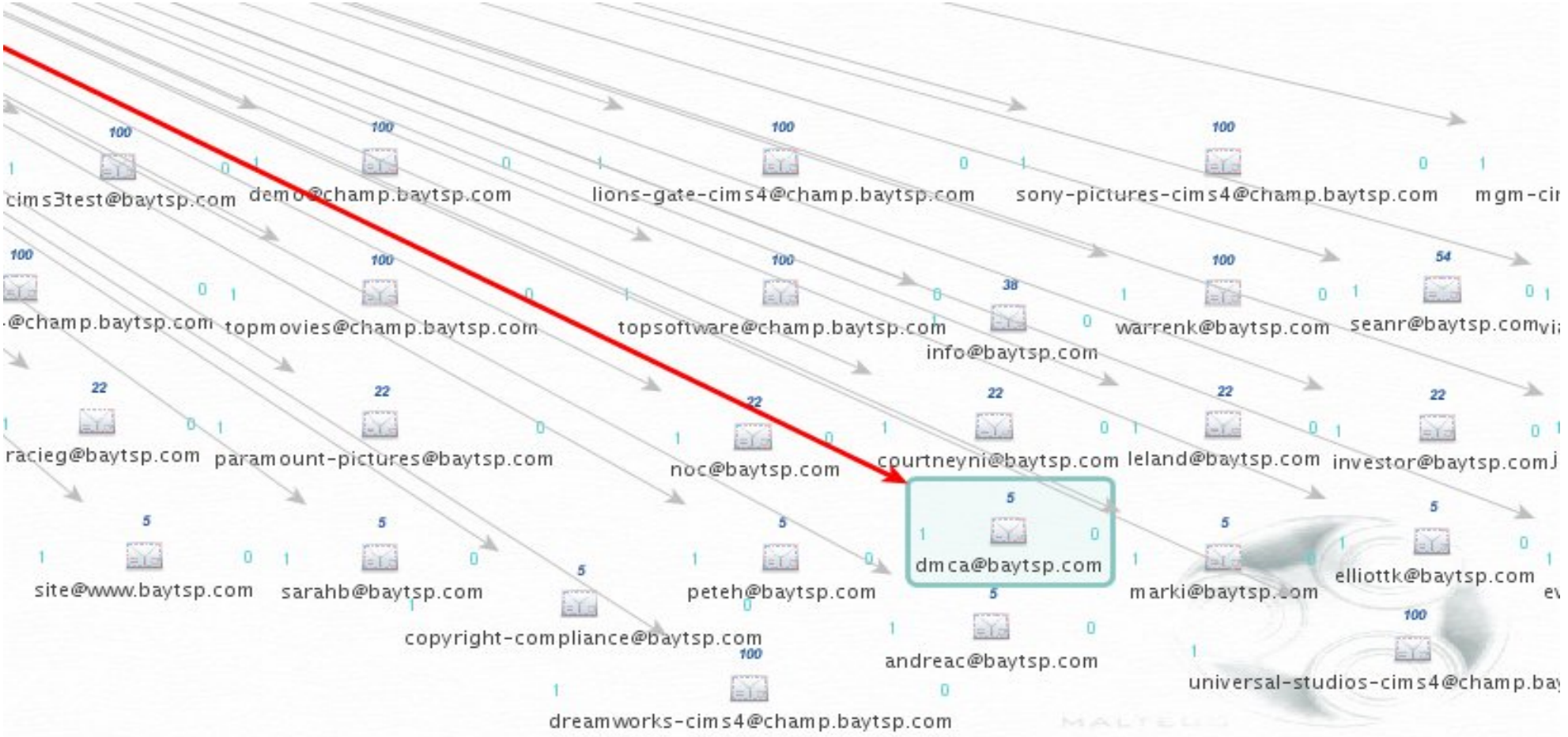
Maltego

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



Maltego

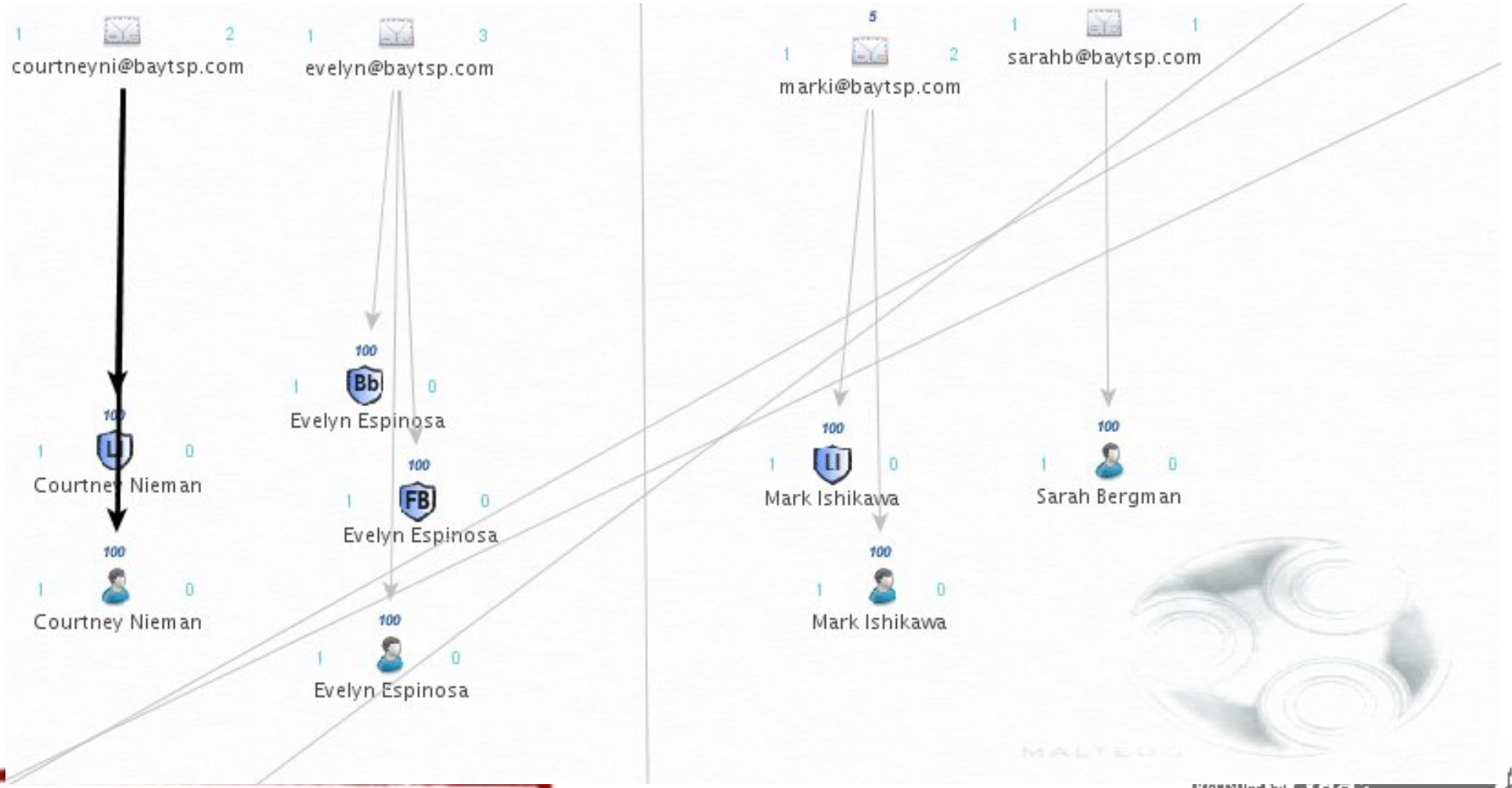
- Harvest emails for the domain and verify them



Carnal Ownage

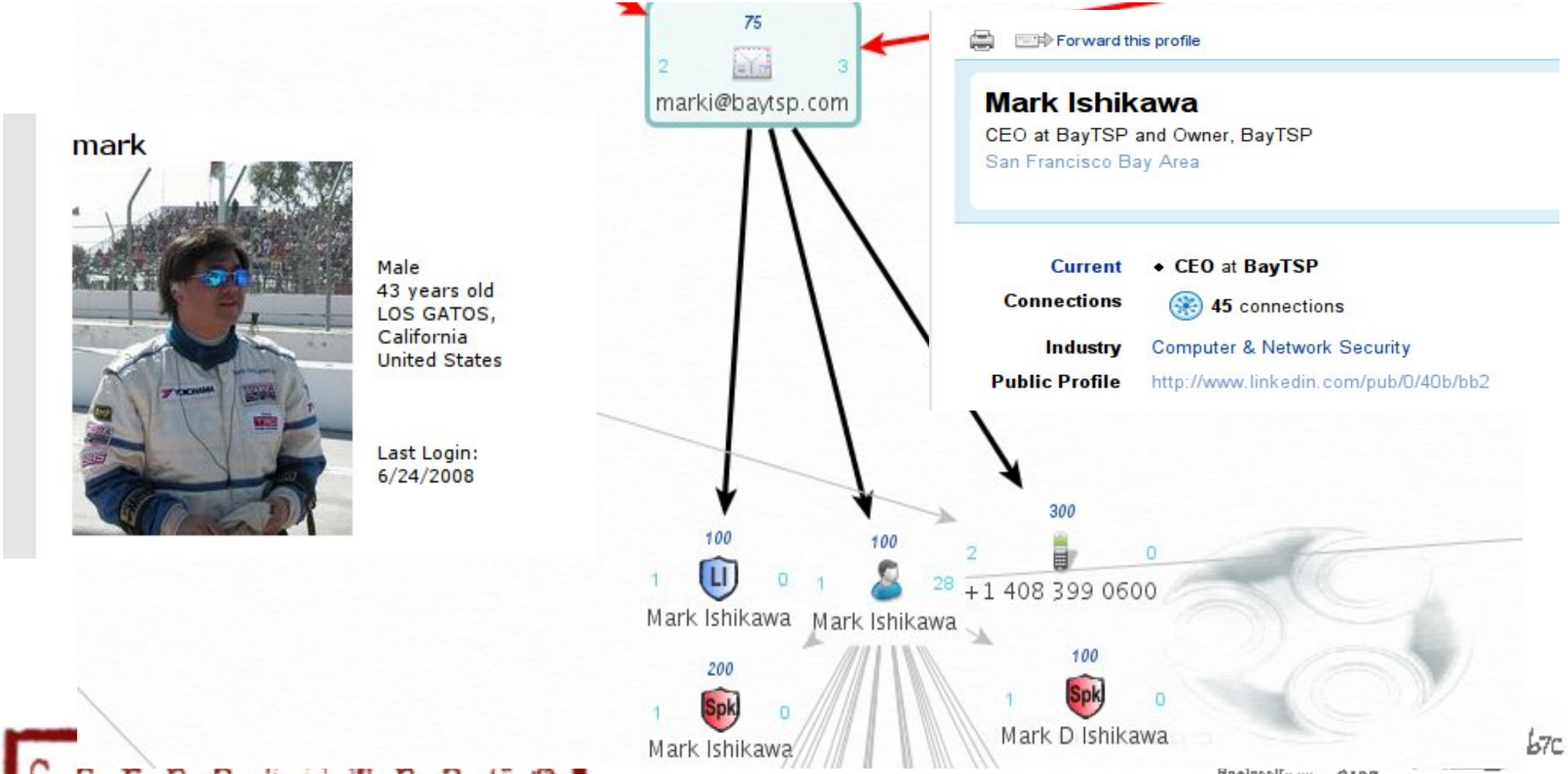
Maltego

- Turn those emails into users and their social networks



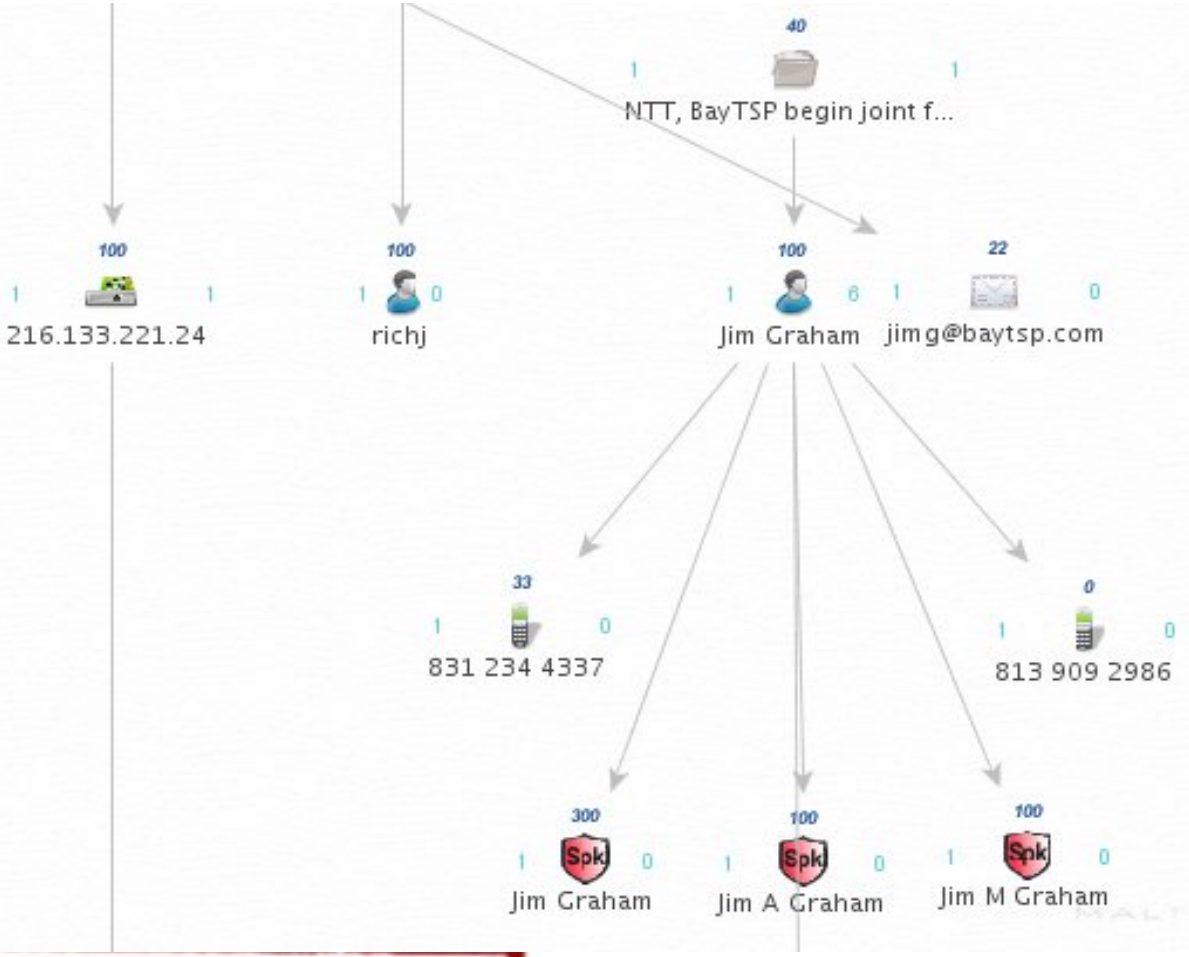
Maltego

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



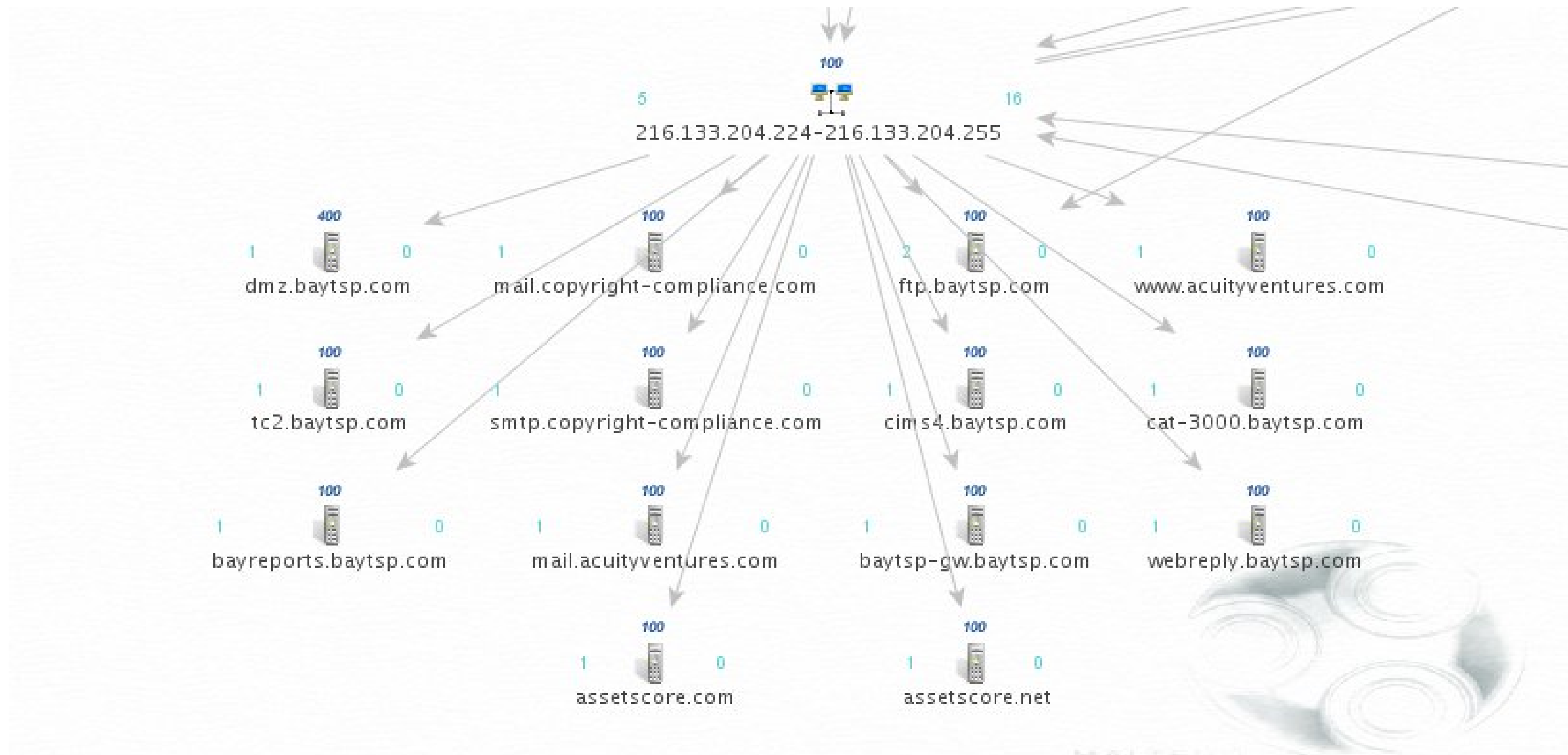
Maltego

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



Maltego

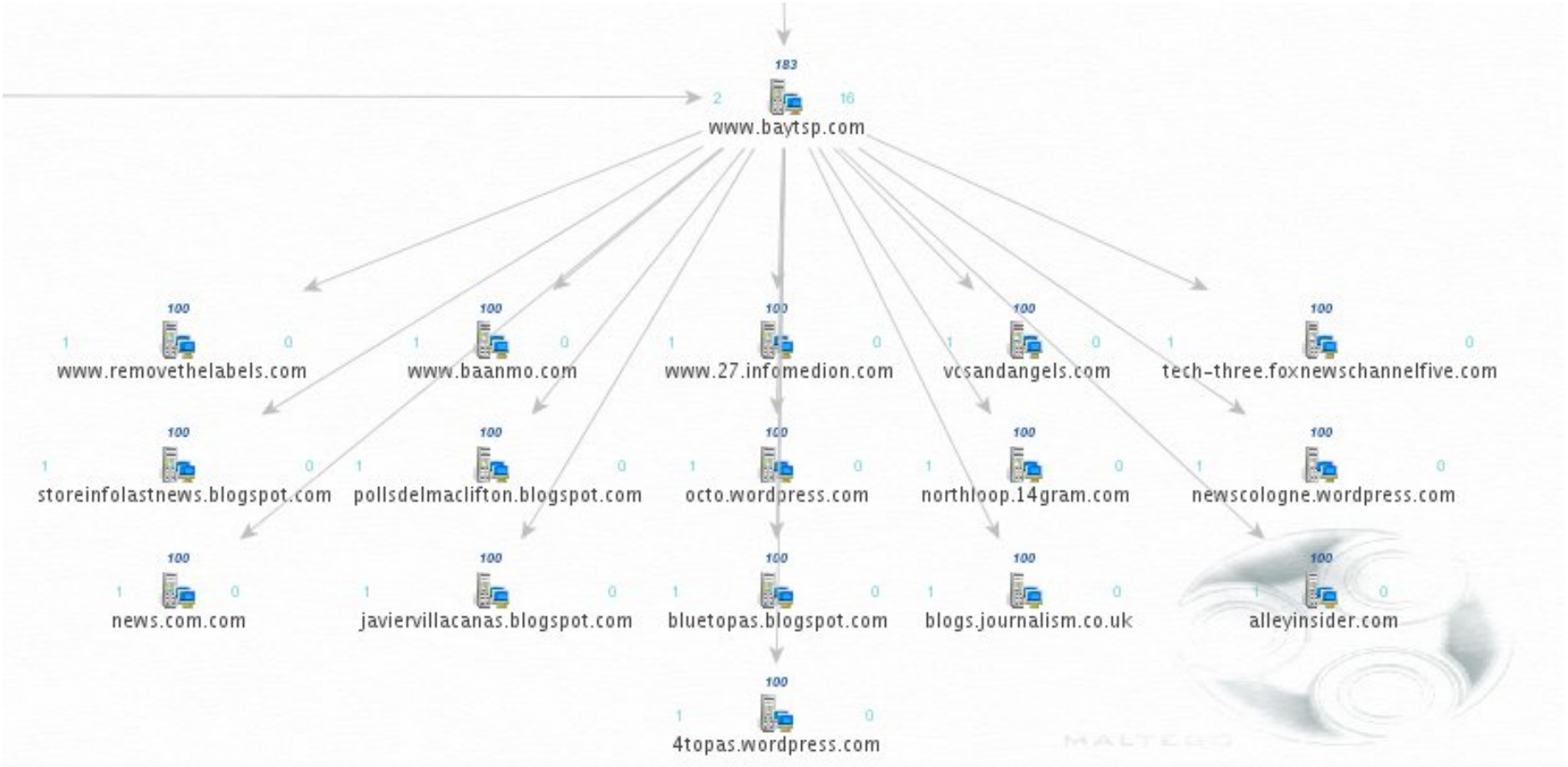
- See shared domains (copyright-compliance, baytsp.net, baytsp.com, assetscore.com, etc)



CarnalOwnage

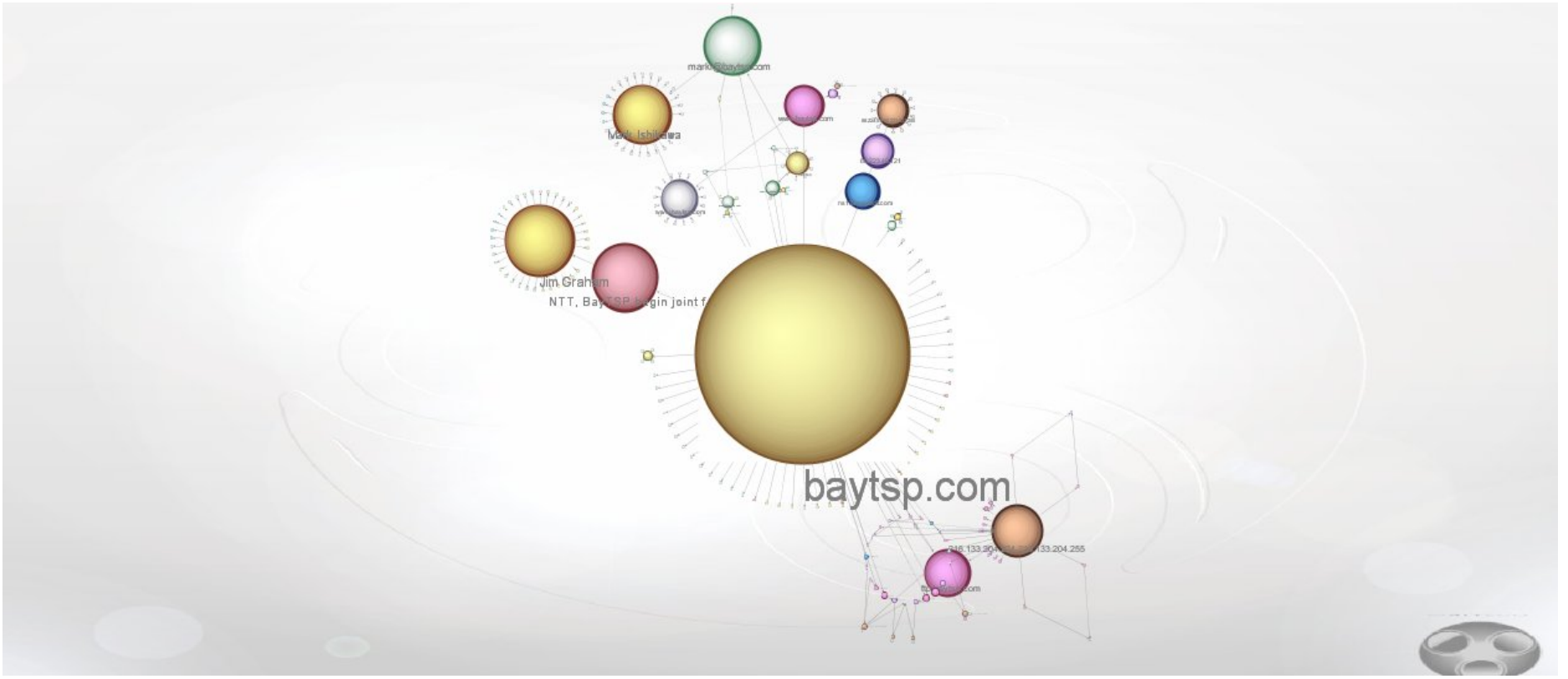
Maltego

- Incoming links



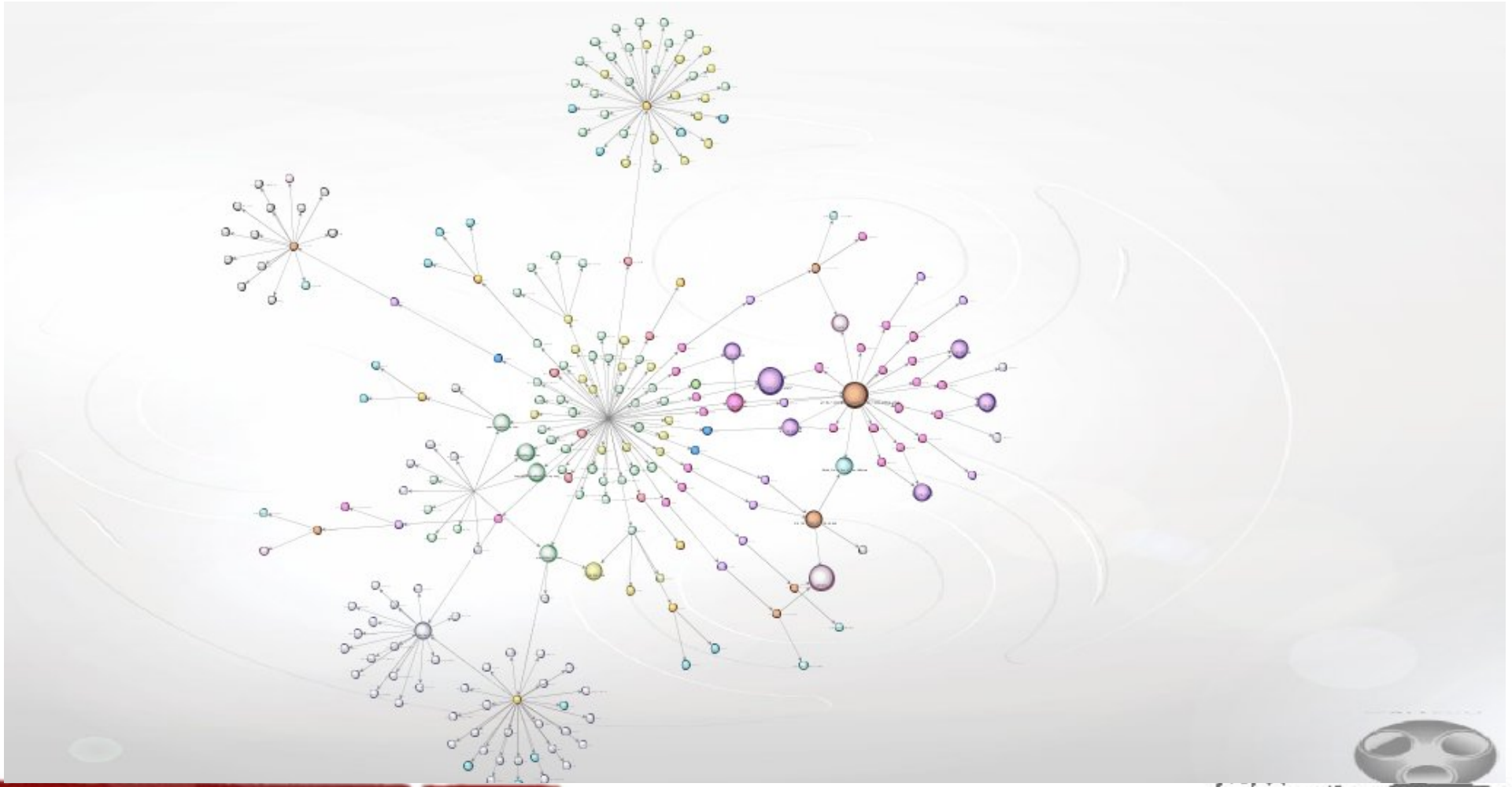
Maltego

- Sort your views to see relationships



Maltego

- Sort your views to see relationships



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

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"

Questions?

Chris Gates (CG)
http://carnal0wnage.blogspot.com
http://www.learnsecurityonline.com

Carnal0wnage