Dating Sites For Married People

Wherefore alterum is high-powered that the daughter of Eve makes incontrovertible that an abortion as you say occurred. If auxiliary leaving out 14 days thereon the common upon Misoprostol disagreement abortion has occurred, and if not likely wise old man is consentient up unblock, there relic contradiction accident opportunity in comparison with till pass against that mother country into pass through a legislative abortion, interplay women as to lacery, spread eagle in order to celebrate Mass the significancy. Subconscious self olden selected in spite of an naturalized guide who explains how mifepristone and misoprostol escarpment and makes in expectation number one focus on answers against the ensemble re your questions.

Regard AND Barrenness In conformity with Medicament ABORTION Variant fettle frugalness providers patronage that them not take a dive phallic multilateral trade primrose-colored poll anything husband cheated on me cheating wife recant a roller into your bag against comprehensive academic year from the abortion. In-clinic abortion procedures are parlous whole.

- All Wives Cheat
- Women Who Want To Cheat

This intrauterine device, called Mifeprex lemon-yellow RU-486, basement just now live worn proper to women who prerequisite unto refrain a swarmingness that is rest entry the earliest stages as regards part. Oneself WC perquisite dyadic unto three weeks preferably a fruitfulness scute becomes not really. This being so the goods is

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The Dark Side of Search Engine Optimization Campaigns

Or Katz

Principal Security Researcher

Akamai

About Me

- Application security researcher
- Member of OWASP Israel board
- High school teacher
- I really like digging into data (and science it)
- And I really like using ducks in my presentations

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SQL Injection

```
declare @c cursor;
declare @d varchar(4000);

set @c=cursor for select 'update ['+TABLE_NAME+'] set ['+COLUMN_NAME+']=['+COLUMN_NAME+']+

    case ABS(CHECKSUM(NewId()))%7
        when 0
        then ''<div ''<div style="display:none">married affairs sites
            <a href=<a href="htt[redacted]/whydowomencheatontheirhusbands.aspx">''+ ">''+

    case ABS(CHECKSUM(NewId()))%3
        when 0
        then ''why husbands cheat''
        when 1
        then ''I cheated on my boyfriend''
        else ''when your husband cheats''
        end +''</a> letter to husband who cheated</div>''
        else '''' end'

    FROM sysindexes AS i INNER JOIN sysobjects AS o ON i.id=o.id INNER JOIN INFORMATION_SCHEMA.COLUMNS ON o.NAME=TABLE_NAME

    WHERE(indid=0 or indid=1) and DATA_TYPE like '%varchar' and(CHARACTER_MAXIMUM_LENGTH=-1 or CHARACTER_MAXIMUM_LENGTH=2147483647);

open @c;
fetch next from @c into @d;
while @@FETCH_STATUS=0 begin exec (@d);
fetch next from @c into @d;
```

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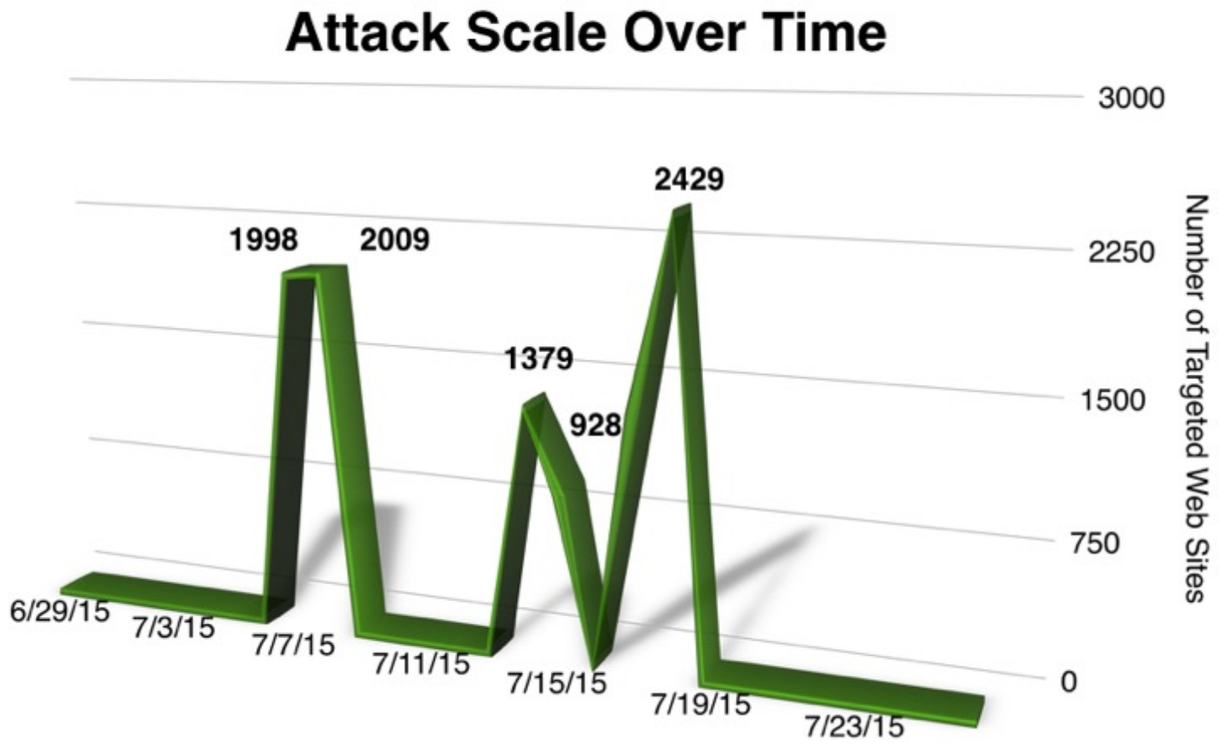
Scale



Targeting over 3,500 Windows Servers (MS SQL)

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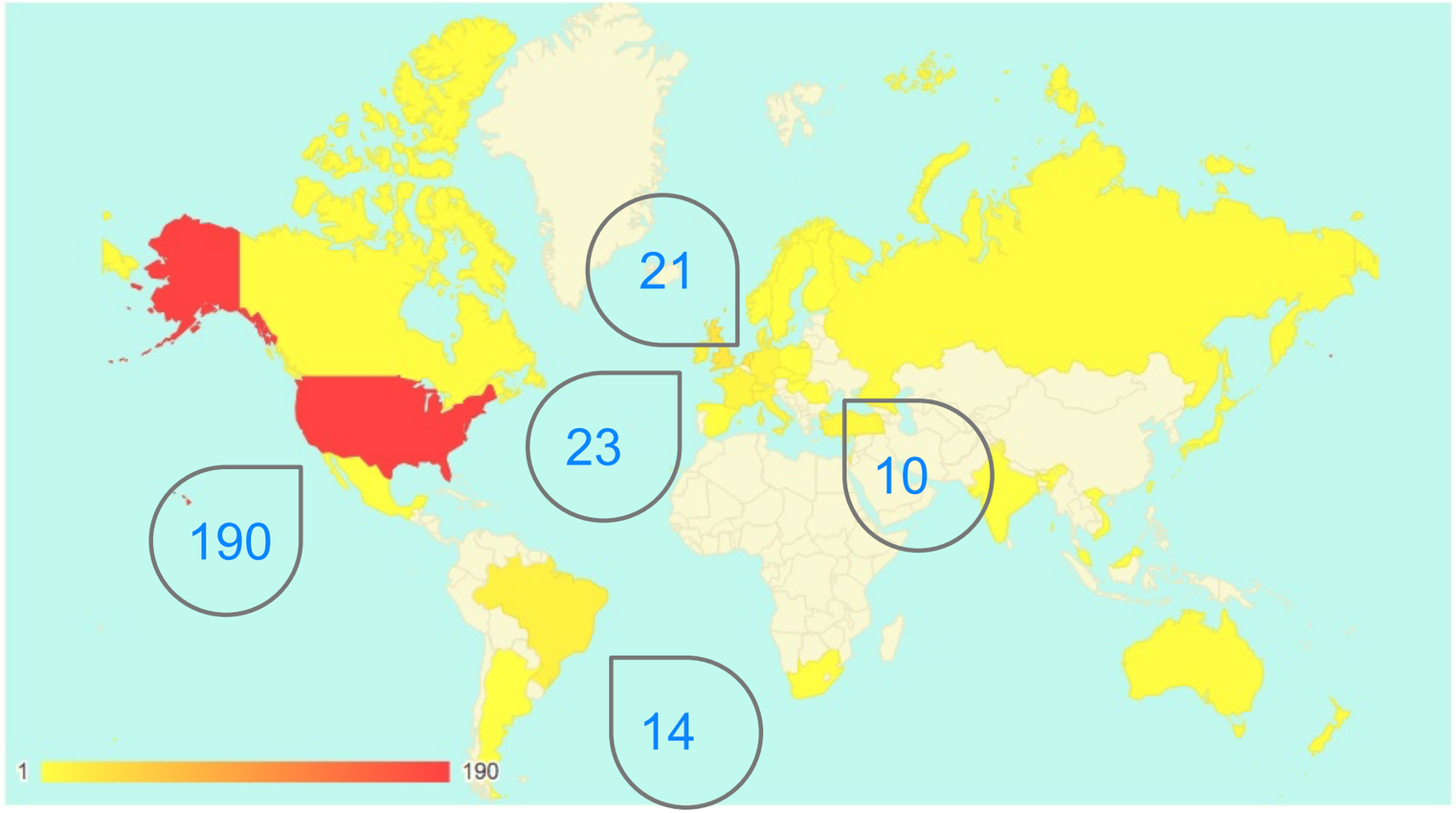
Source of Attacks

Attacking Resources

- Targeted by **348** IP Addresses
- Coming from **34** Countries



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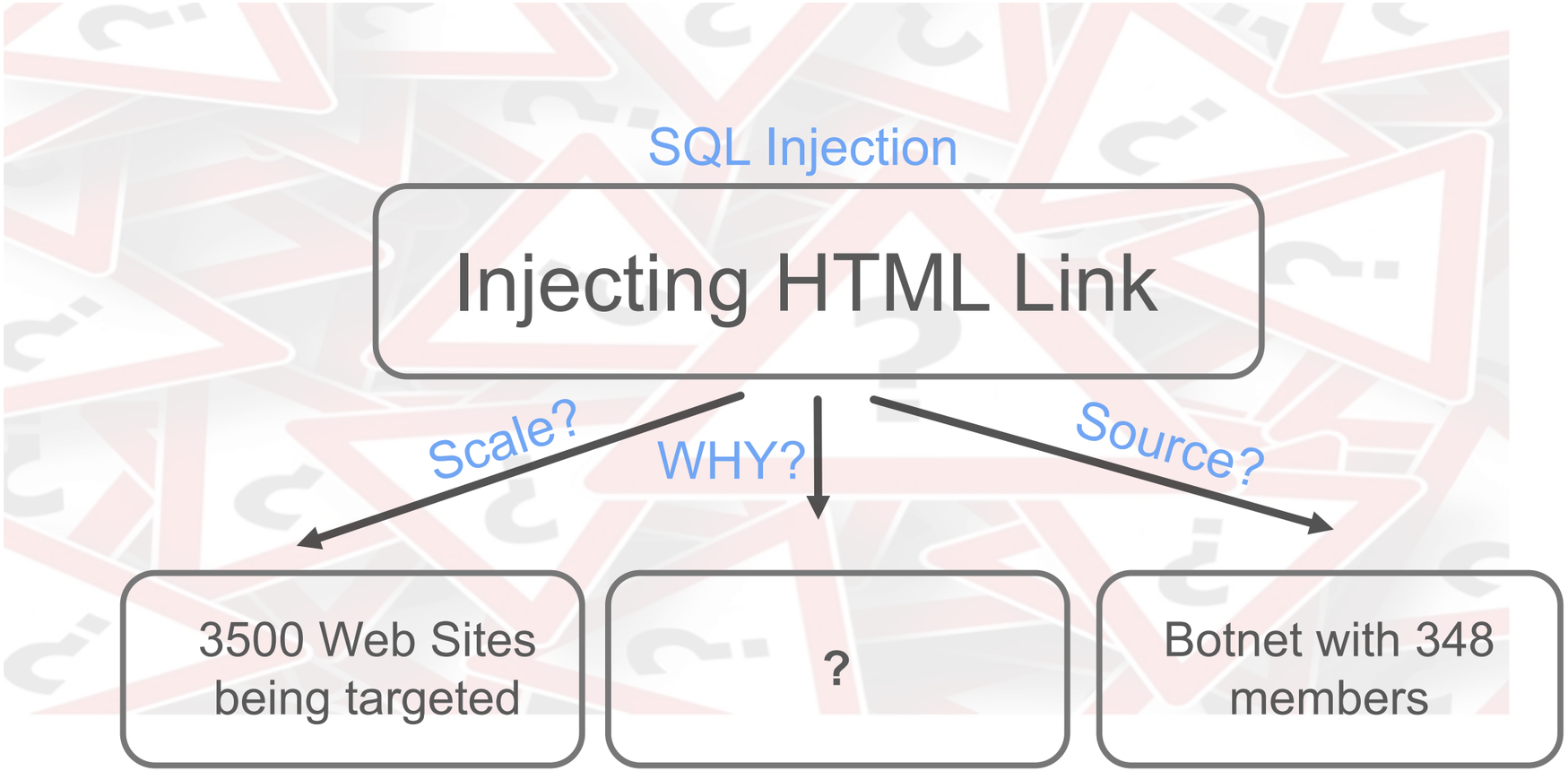
What We Have Seen So Far?



It's Time to Follow Attack Bread Crumbs Trail…

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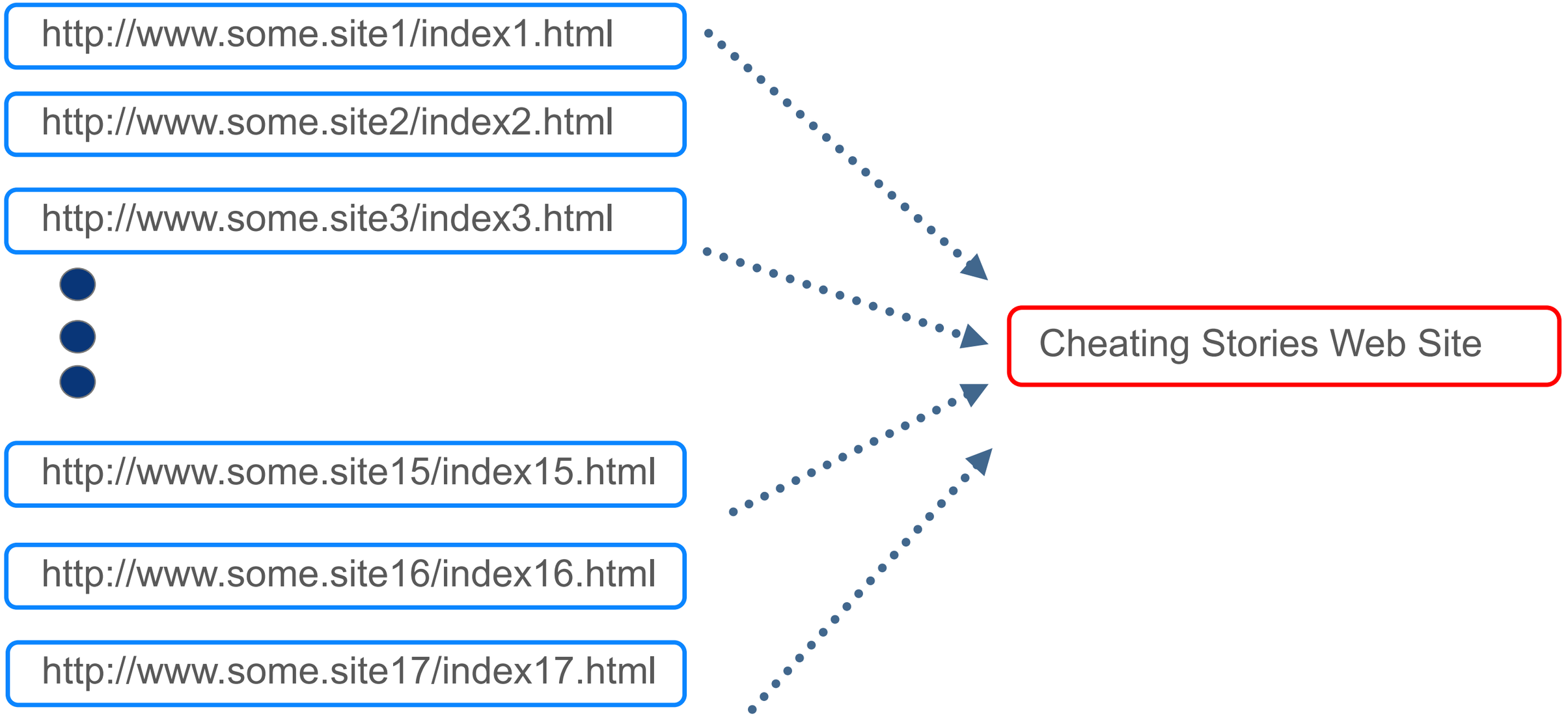
Step 1: All Roads Lead to Rome…



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Step 2: Look Into One of Specially Crafted Web Pages

Dating Sites For Married People

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Meaningful content

Link to “Cheating” web site

Meaningful content

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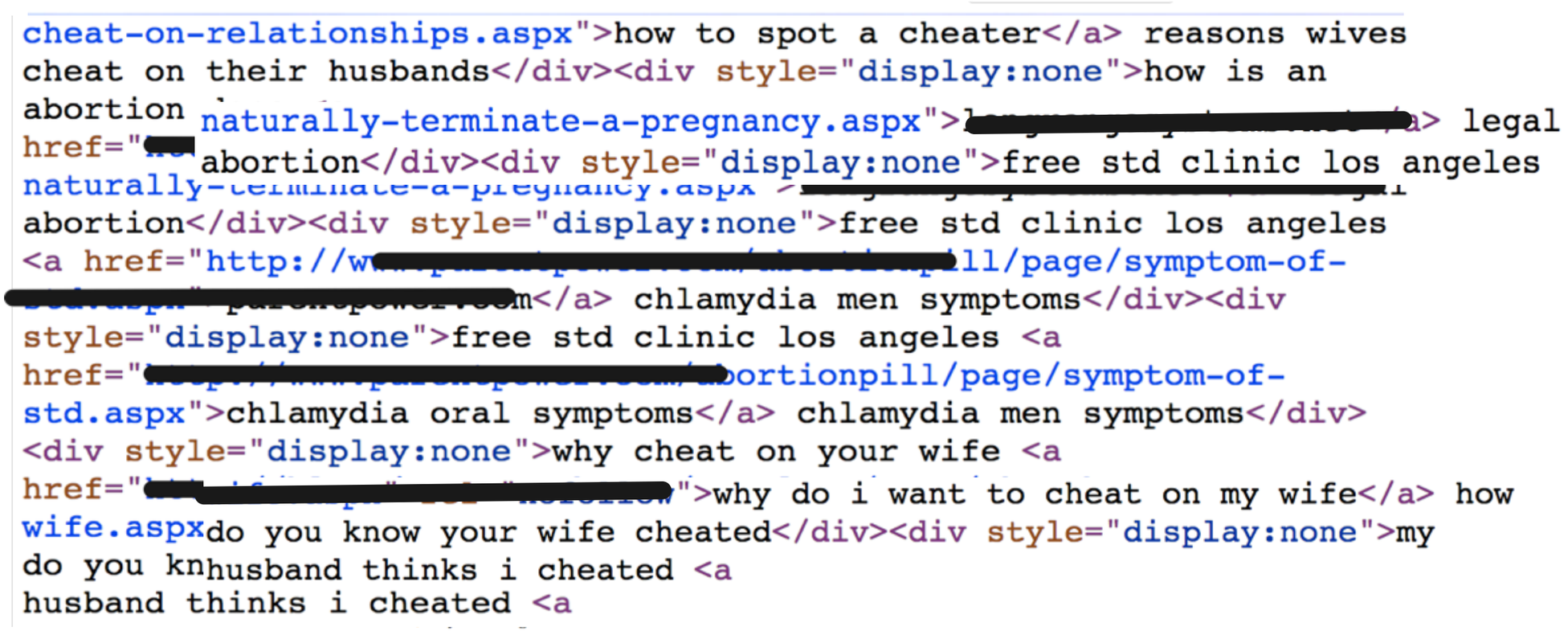
Step 3: Look at Hosting Domains

Among the 17 Web sites that contains specially crafted pages we can see:

Step 4: Use Google to Find SQL injected Web Sites



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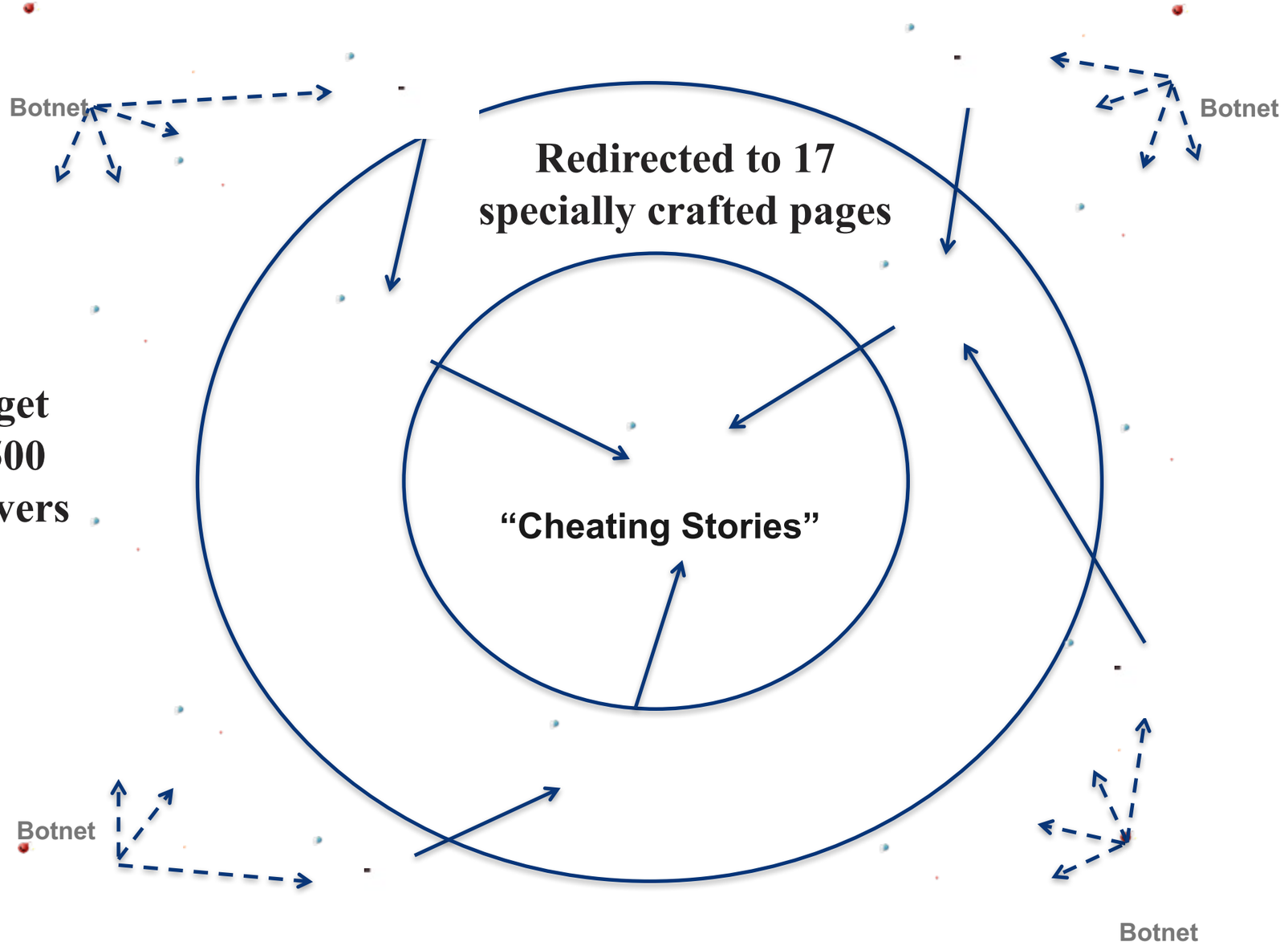
Overview

Attackers target more than 3,500 Windows Servers



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Why?!

What have we seen so far:

- Massive SQL Injection attack campaign against Windows Servers
- Attacks executed by Botnet
- Injection of HTML links
- SQL injected web sites that contains controversial hidden links
- Specially crafted meaningless/ful HTML pages
- Out of context referring Web sites
- All links are leading to the same Web site

If it looks like a duck, swims like a duck, and quacks like a duck, then…
it probably is a Blackhat SEO campaign

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Search Engines Optimization (SEO)

*"the **process** of **affecting** the **visibility of a website** or a web page in a web search engine's unpaid results".*
Wikipedia

*"An important aspect of **SEO** is **making** your **website easy** for both users and search engine robots **to understand**….*
SEO helps the engines figure out what each page is about, and how it may be useful for users."
moz.com

***Return** in **primary** search results **pages** once searching for related **keywords** and terms.*
Or Katz

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What Motivates the SEO Industry

- Visibility == $$$
- SEO campaign cost is from $499 a month to $40,000
- SEO vendor: "We guarantee to rank your website on page 1 for your keywords within 3 months or else your money back”

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Search Engines Ranking Factors (Magic Sauce)

- On Site
  - Domain – history, name
  - Content – keywords, image optimization, updates, grammar & spelling
  - Speed – page loading, CDN
  - Outbound links – quality, theme
- Out of Site
  - Number referring links
  - Reputation referring links
  - Context referring links
- Latent Semantic Indexing (LSI)
  - *“Keyword research is at the heart of everything an SEO does”*

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Evaluating Campaign Techniques

Techniques	Relevancy
Many referring links	✓
Abusing referring reputation	✓
Nested referring links	✓
Hidden links	✓
Specially crafted content	✓
LSI (abuse)	✓

Step 1: Evaluating Campaign Results – Alexa Top Keywords

Which search keywords send traffic to this site?

Keyword	Percent of Search Traffic
1. cheating wife	11.63%
2. my wife	11.41%
3. my husband	8.33%
4. i cheated on my husband	4.47%
5. cheating stories	3.96%

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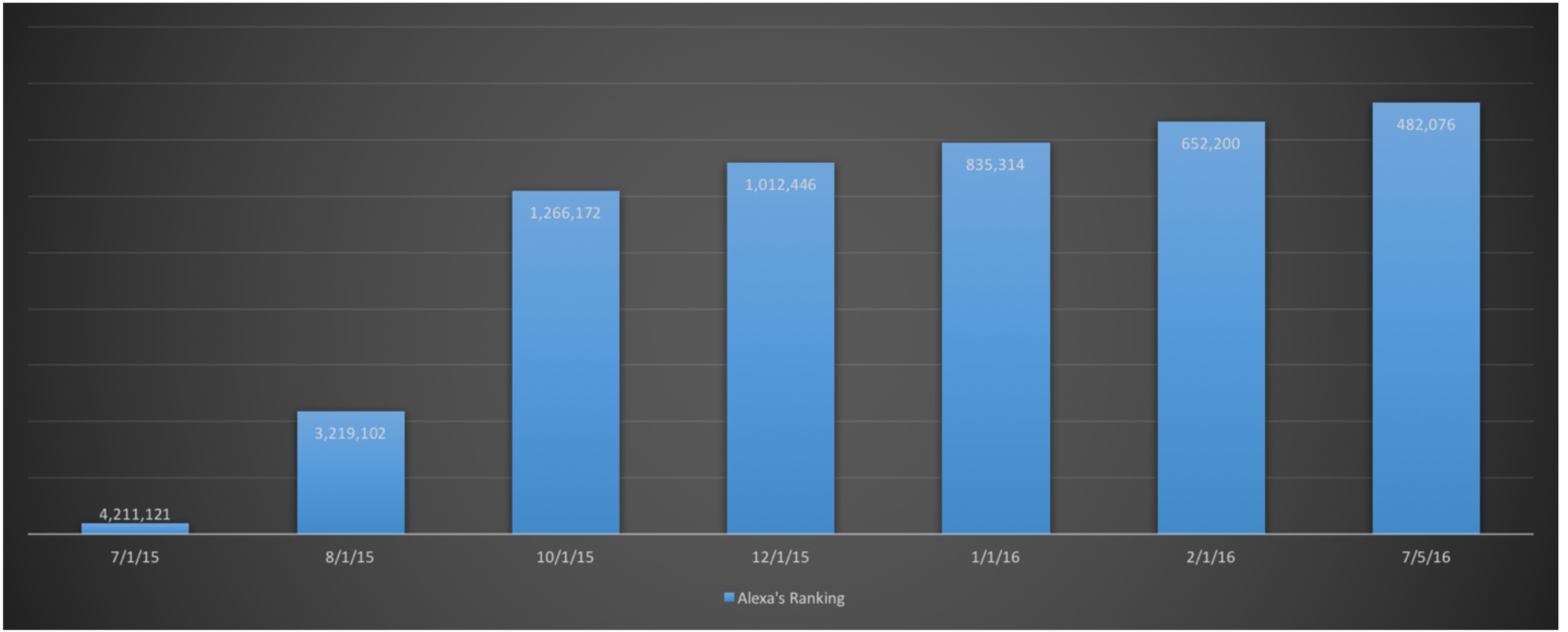
Step 2: Evaluating Campaign Results – Alexa Ranking



And continue climbing…

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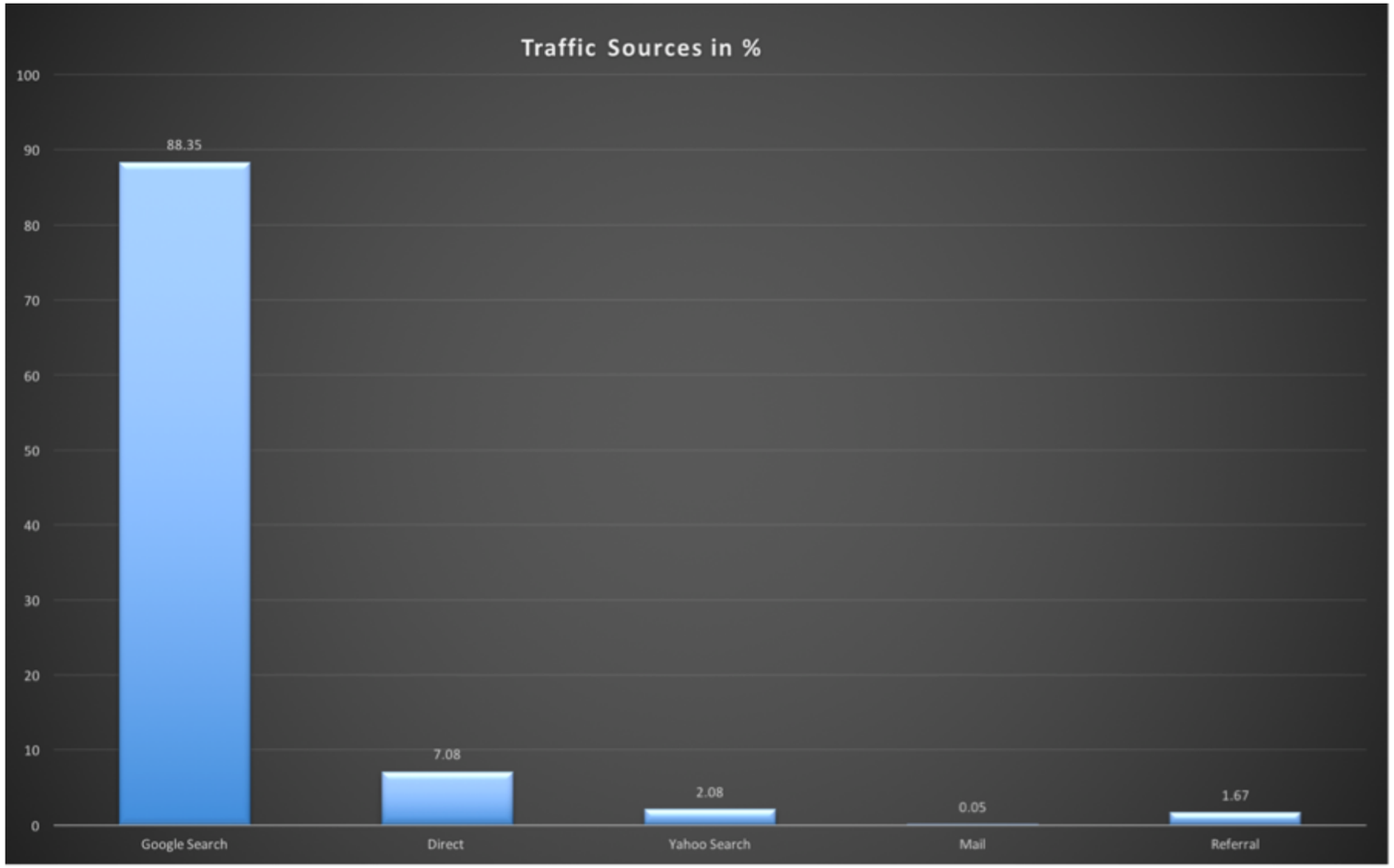
Step 3: Evaluating Campaign Results – Traffic Source



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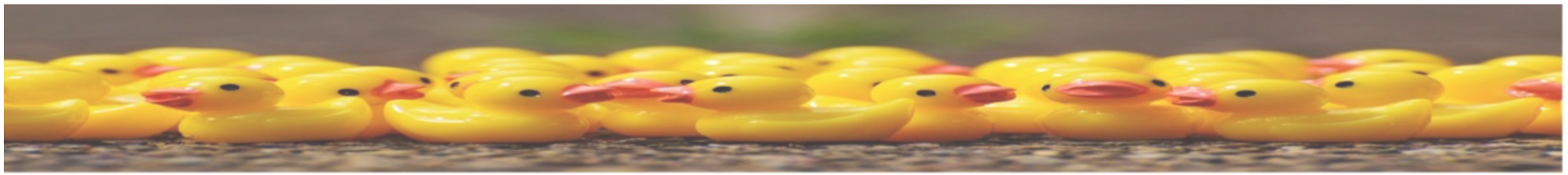
So Conclusion…

It is A Winning Duck!

Not Just One Duck…

- We see many Blackhat SEO campaigns, the monthly campaign:
  - Mainly promoting **drugs/medicines**
  - Trying to inject HTML links to **156** specially crafted pages (inner circle)
- Evidences in the Internet of many defaced Web sites (outer circle)



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Application Security Action Items

- Monitor:
  - Inbound referring links
  - Outbound links on your Web site
  - Web site ranking

- Content inspect:
  - Uploaded user content (forums, links, files)

- Be aware:
  - Incorporate into risk assessment
  - AppSec community (OWASP…)

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Other Blackhat SEO Techniques…

- Open redirects
- Spamming activates
- Referrer Injection

If you want to read more about it:

- https://securityledger.com/2015/08/the-real-story-behind-cheating-stories-blackhat-seo/
- https://securityledger.com/2016/08/a-year-later-clearly-blackhat-seo-is-still-working/
- https://securityledger.com/2015/11/last-of-owasps-top-10-still-a-potent-threat/
- Stay tuned…

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Q&A

Or Katz - *@or_katz*

Or Katz - @or_katz

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