



2016 中国互联网安全大会
China Internet Security Conference

协同联动 共建安全+命运共同体

Industry Update: Movement toward https

Dean Coclin

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Symantec Website Security



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360互联网安全中心

Agenda

1

What's new in the Industry?

2

Phishing

3

Encryption Everywhere



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*HTTP WILL BECOME A
THING OF THE PAST*

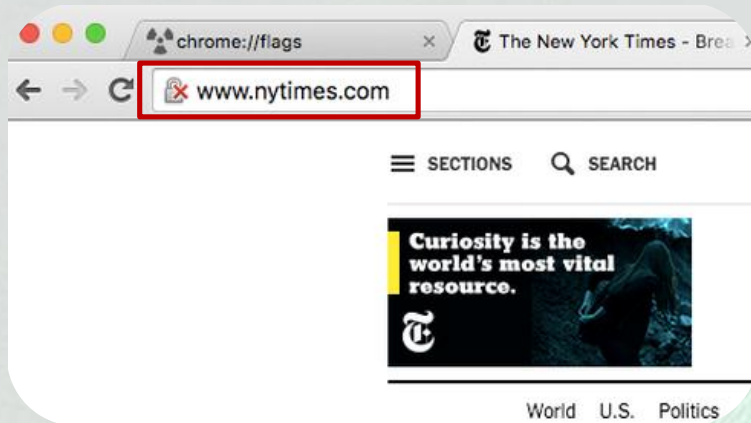
Browsers Will Warn Users of Non-https Connections



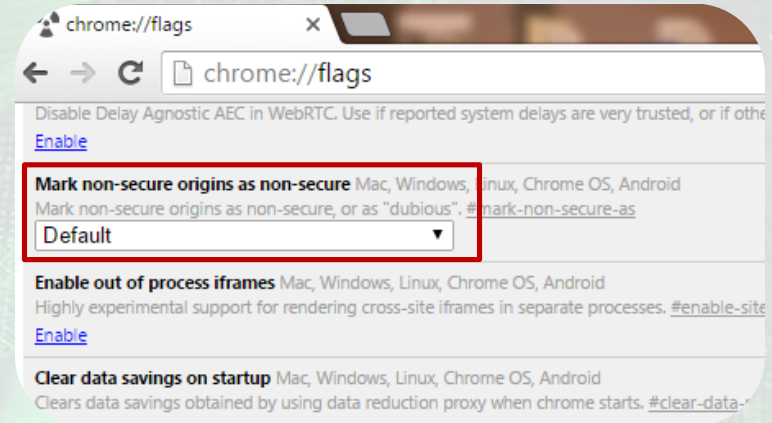
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Chrome plans to warn users when pages are insecure (non-https)



Type chrome://flags and select: “Mark non-secure origins as non-secure” to test behaviour

US Government Moving to All https

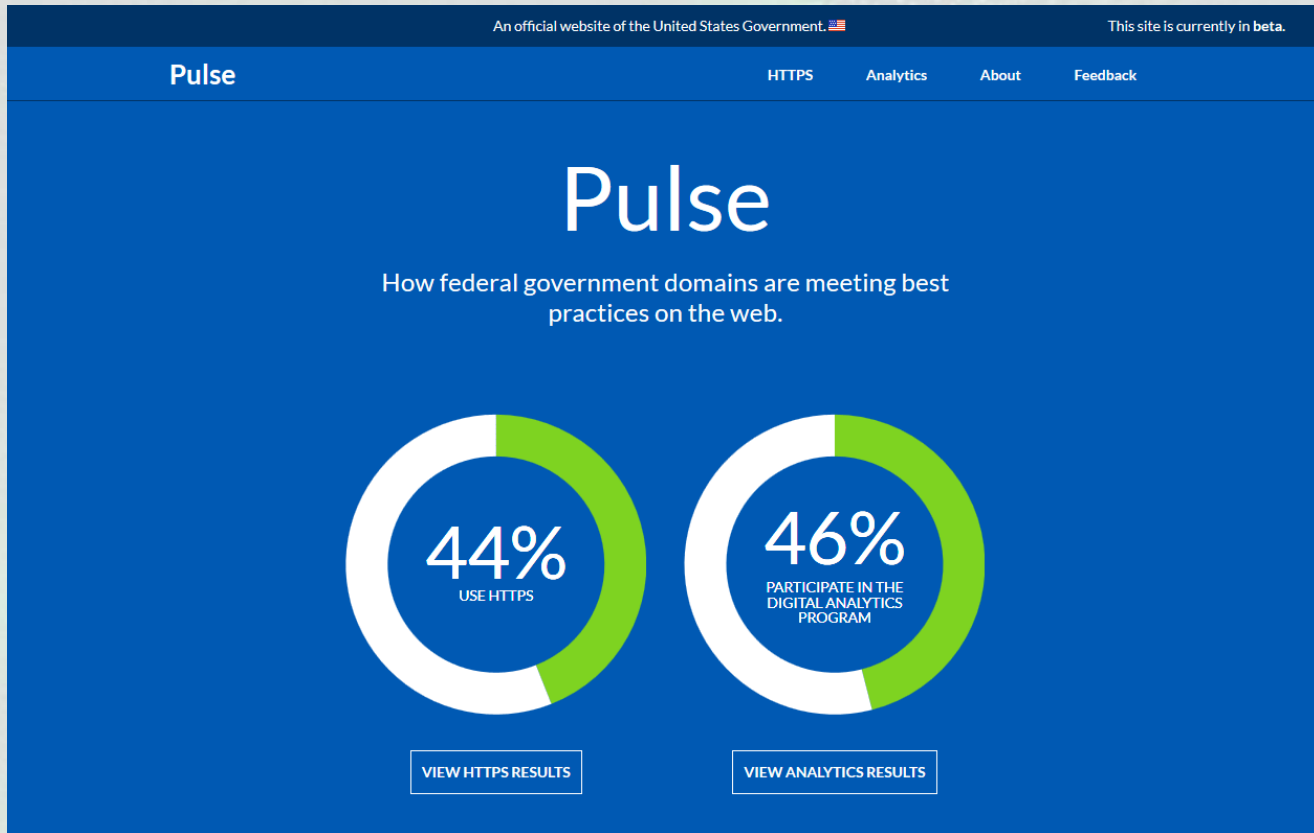


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Out of 1166 domains!



Powerful Features Only on https

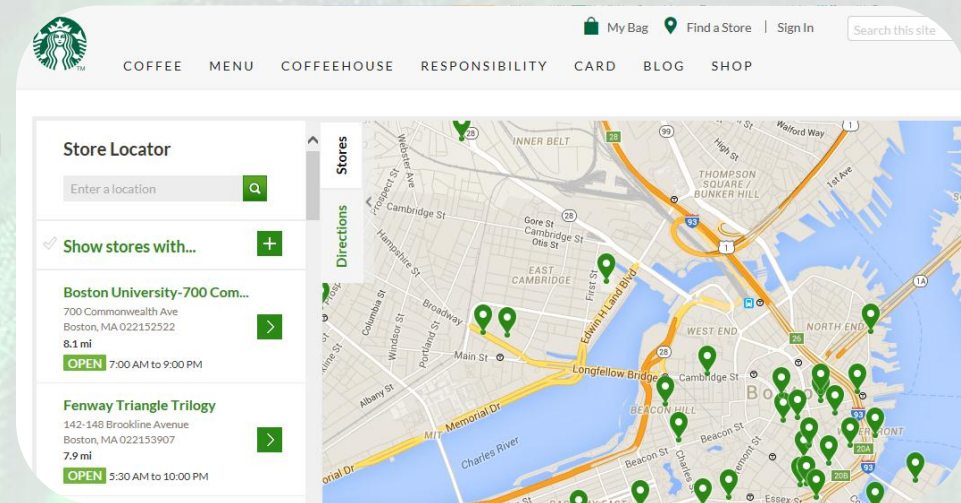


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1. Geolocation (Chrome 50)
2. Device Motion/Orientation
3. Fullscreen
4. getUserMedia (Camera/Mic)
5. Encrypted Media Extension (DRM)



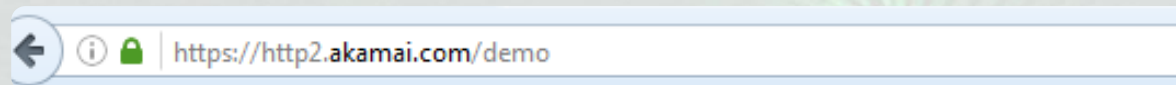
http2 over https only



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Chrome



Firefox



IE



Edge



Safari



Opera

HTTP/2 is the future of the Web, and it is here!

Your browser supports HTTP/2!

This is a demo of HTTP/2's impact on your download of many small tiles making up the Akamai Spinning Globe.

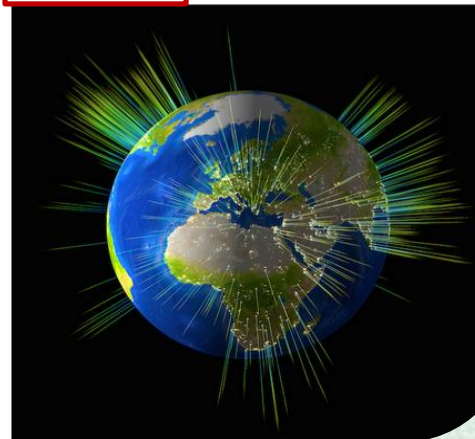
HTTP/1.1

Latency: 40ms
Load time: 17.53s



HTTP/2

Latency: 56ms
Load time: 1.11s



Significantly faster!

- http Website Operator: “Where did that guy come from?”
- Source (https): Sorry I can’t tell you because you are not using https
- **MORAL:**
Use https for your own site and improve your referrer data!

What does this mean?



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- The site is safe?
- The site is secure?
- The site is patched and has no vulnerabilities?
- I know who the site is to be?
- The site is free?
- I can trust the site?
- If I buy something, I can be sure they will deliver?

SOMEONE has control of the domain...
The data is encrypted!

But who controls the domain? Who can request a cert for dean.example.com?



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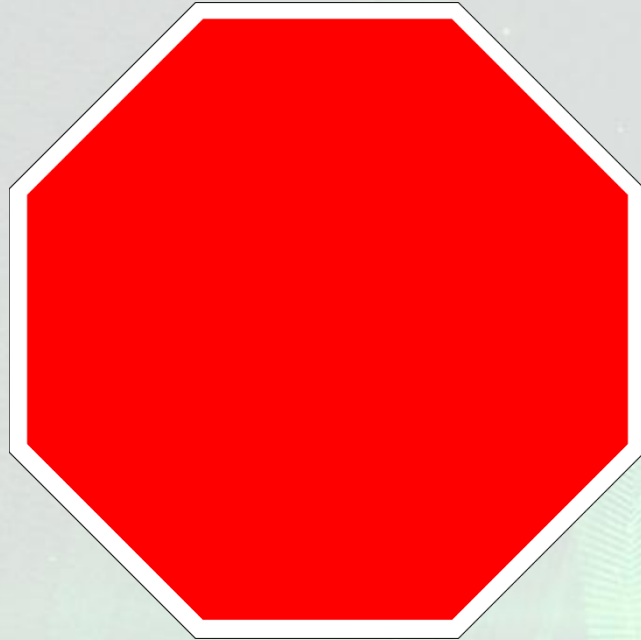


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- Dean Coclin, author of the content and logical operator of the dean.example.com origin
- Example.com, provider of hosting services for Dean Coclin
- CDN Corp, a CDN that provides SSL/TLS front-end services for example.com, which does not offer them directly
- Marketing Inc, the firm responsible for designing and maintaining the website on behalf of Dean Coclin
- Payments LLC, the payment processing firm responsible for handling orders and financial details on dean.example.com
- DNS Org, the company who operates the DNS services on behalf of Dean Coclin
- Mail Corp, the organization who handles the MX records that dean.example.com responds to

**WHAT
SHOULD GO
IN THE
“O” FIELD?**

What Do These Mean?



Consistent, Universal, Global, No learning curve!

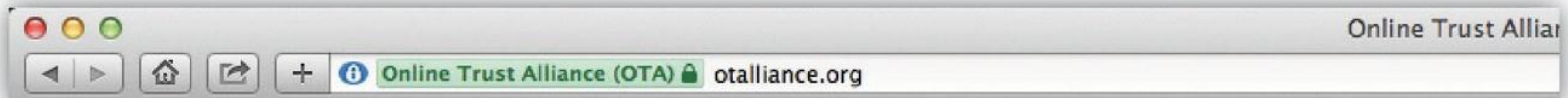
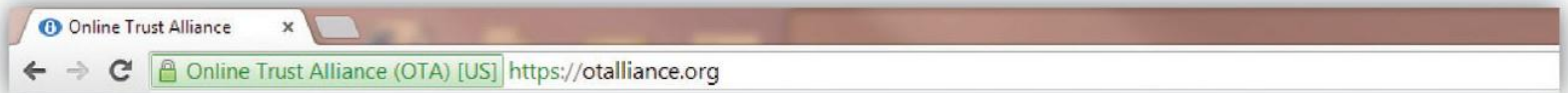
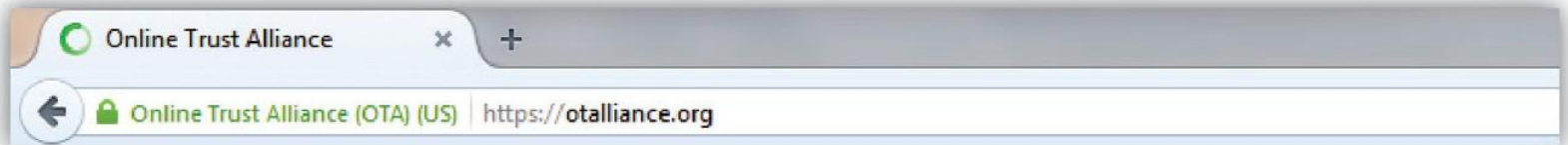
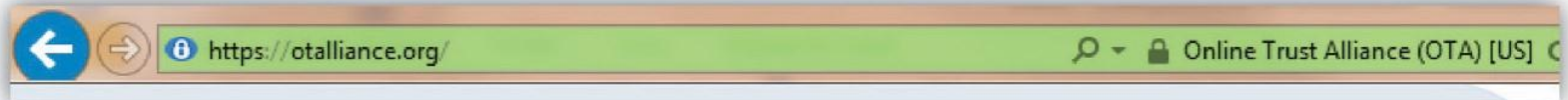
Consistency Matters



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http or https?



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*+39% growth
from May 2015*

May 2016: 4.84M certificates

DV	OV	EV
76.1% ↑	21% ↓	3.1% —

Top Million Busiest Sites

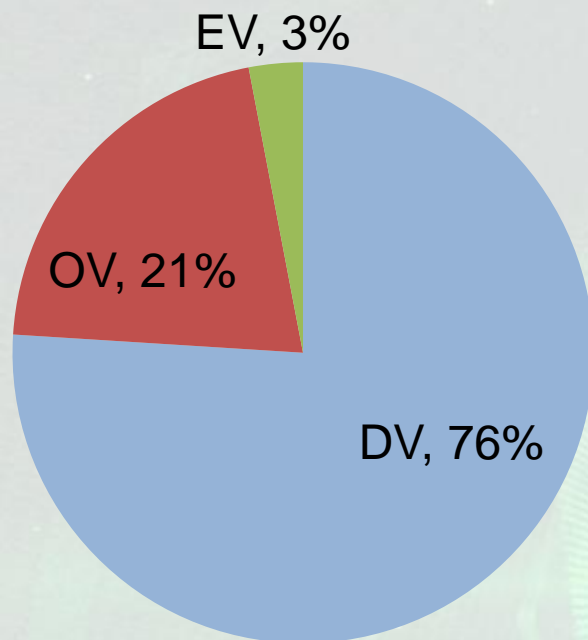


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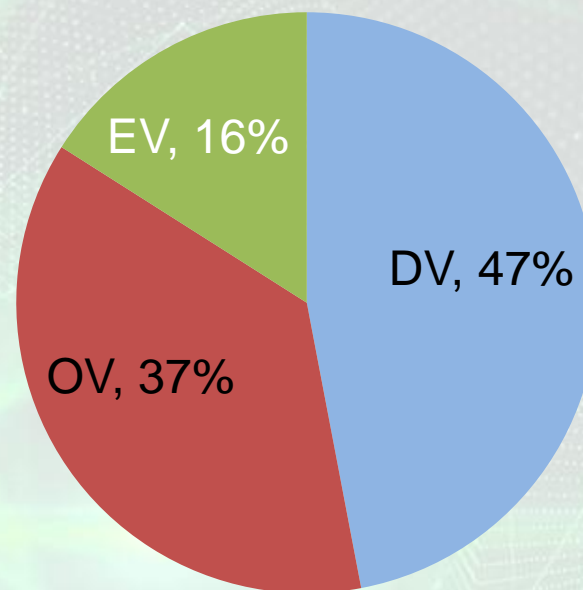
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All Certificates



■ DV ■ OV ■ EV

Top Million



■ DV ■ OV ■ EV

The Leader in Website Security

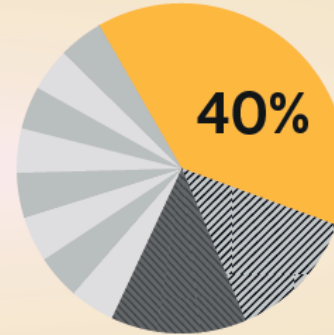
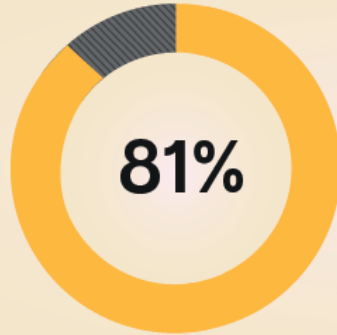


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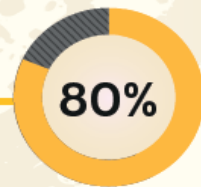
E-commerce
Revenue
Secured¹



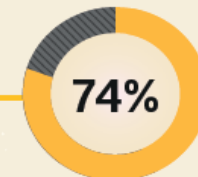
#1 in Securing
Internet Traffic²

- Competitor A: 11%
- Competitor B: 10%
- Other Competitors < 10%

Top 500 US
E-Commerce
Sites Secured

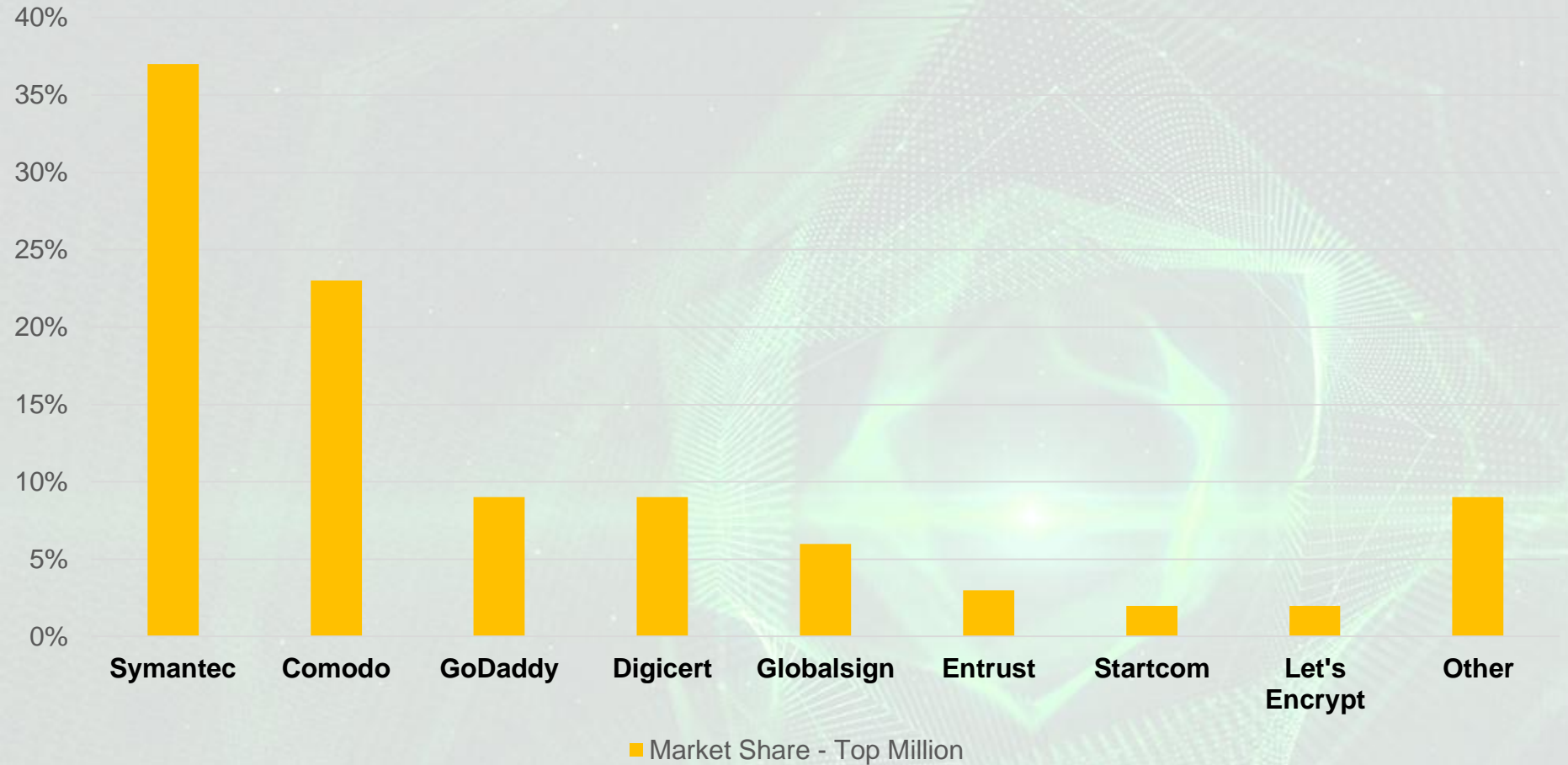


Top 500 European
E-Commerce
Sites Secured



Market Share Top Million

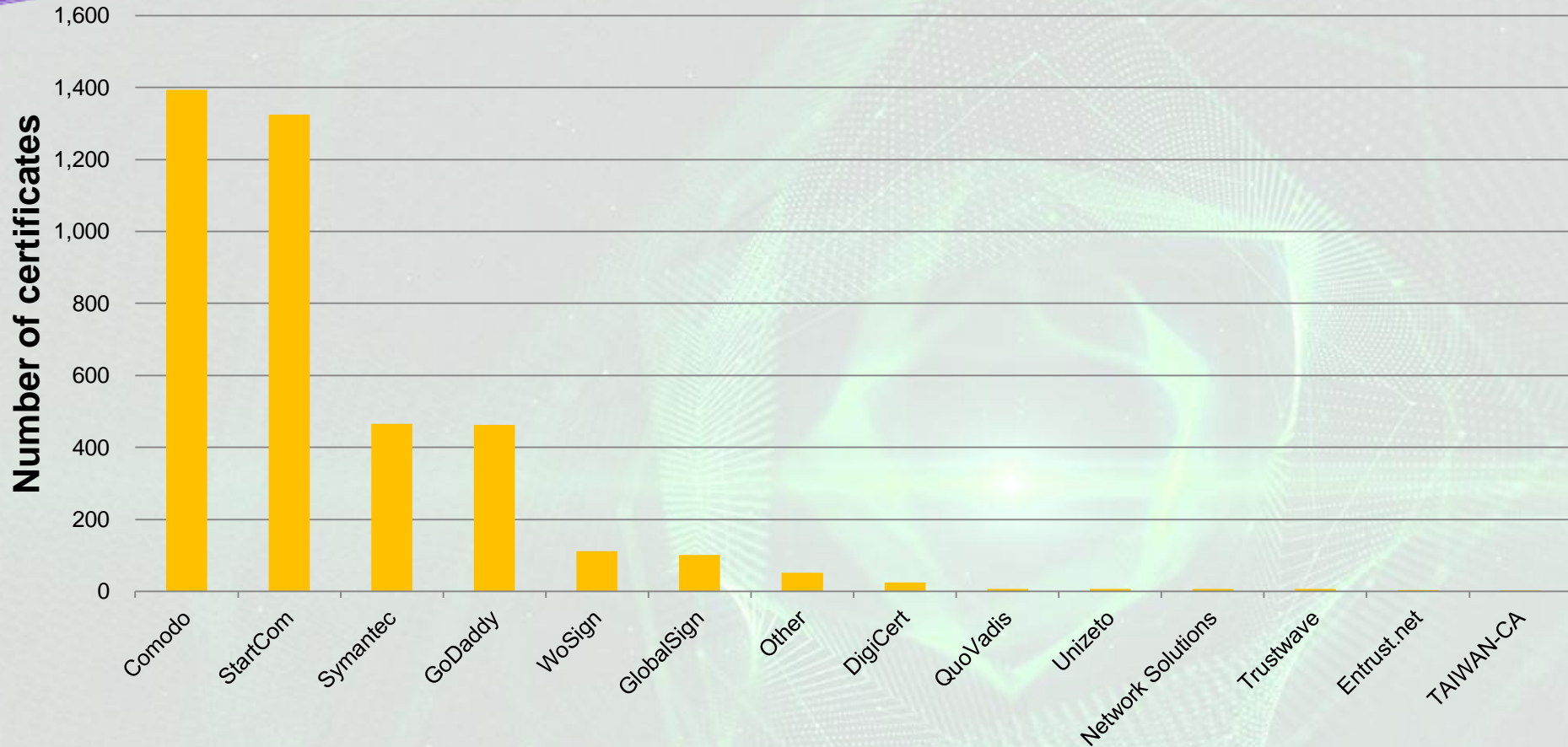
Top Million Netcraft Sites



Certificates Switching to Let's Encrypt



Source of gained certificates



Dean's Predictions



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- Certificate usage will continue to grow → 6.5 to 7.5M in 12 months
 - Fueled by https initiatives and EE!
- SNI servers will show increased growth
- SHA-1 usage will decline dramatically (and so will XP!)
- Phishing using DV certs will continue to increase
- Chrome will be on the bleeding edge of changes and enforcements
- IPv6 will finally be adopted for CRL and OCSP lookups



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Phishing

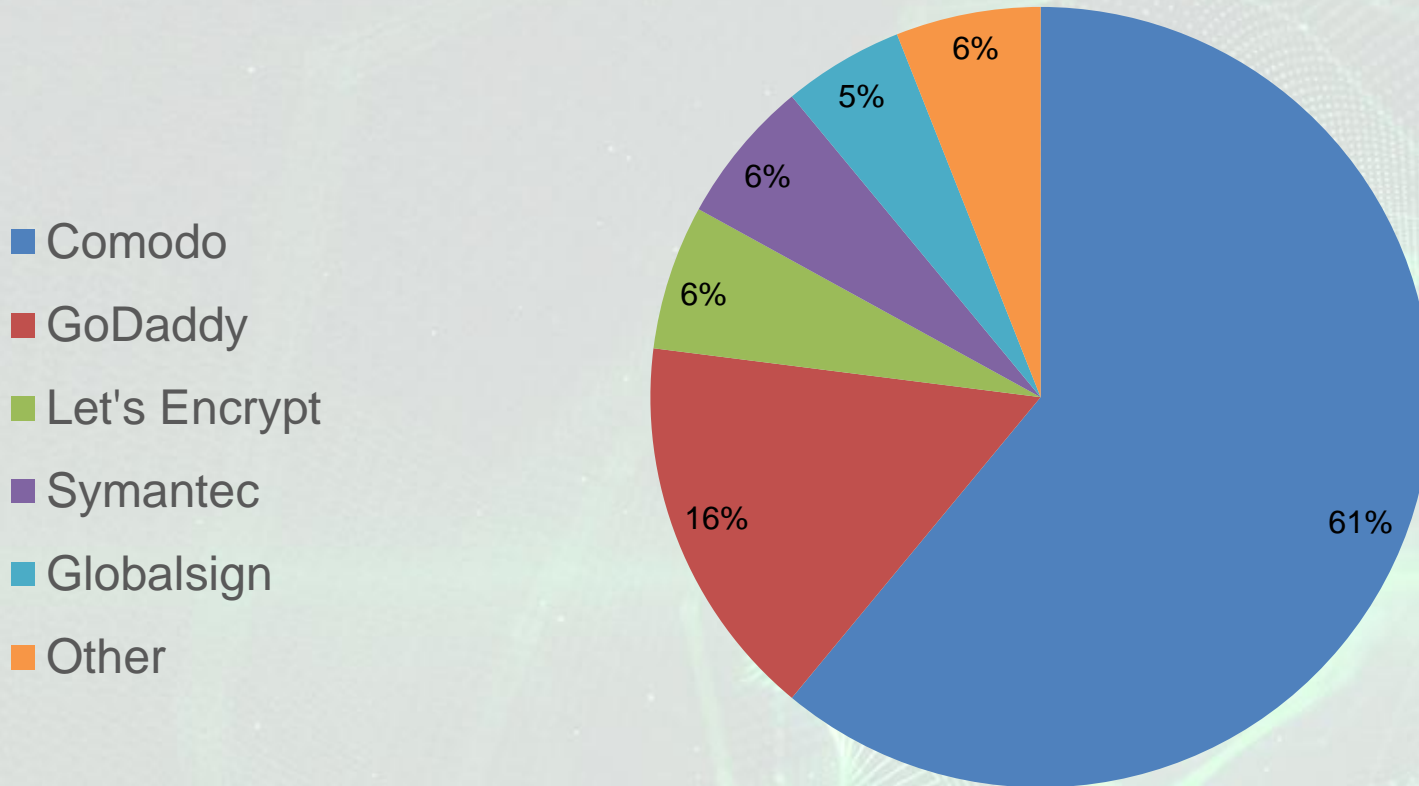


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Phishing certs found by Netcraft (May 2016)



35% of Comodo certs issued by Cloudflare

Recent phishing example sites



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Let's Encrypt

- paypal-4updates.com
- icloud-unlock.pl
- icloud-lostapple.info
- www.verif-icloud.com
- restore-amazon.com
- intl-paypal.hotchat.online

Comodo

- net-flix.one
- amazom.ml
- paypal-security.center
- p.aypal.info
- safe-payment.online
- pypal-account-information.info

Phishers know how to do SSL correctly!



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SSL Report: accessupdatecenter.info (46.32.236.232)

Assessed on: Sun, 29 Nov 2015 17:13:47 UTC | [Clear cache](#)

[Scan Another »](#)

Summary

Overall Rating



Visit our [documentation page](#) for more information, configuration guides, and books. Known issues are documented [here](#).

The server does not support Forward Secrecy with the reference browsers. Grade reduced to A-. [MORE INFO.»](#)

This site works only in browsers with SNI support.

This server supports TLS_FALLBACK_SVC to prevent protocol downgrade attacks.

Summary



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- DV: Easy to get by legitimate users and cybercriminals
- Phishers getting more adept at creating look-alike domains
 - xn—80aj7b8a.com → ebay.com
 - xn—secure-ank-yzi.com → secure-bank.com
 - Itunes.com
 - paypl.com
 - ww.vv-paypal.com
 - icl0ud.ru.com
- Ecosystem partners must work together



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Symantec Encryption
EVERYWHERE
is changing the game



Symantec.
Encryption Everywhere


*What percent of current websites
have no authentication, no validation,
no trust seal, and no encryption?*

97%

In 2014, what percentage of websites had vulnerabilities?

75%

of the websites Symantec scanned for vulnerabilities were found to have issues



What percentage of vulnerabilities were classified as critical?

20%

The percentage of vulnerabilities classified as “critical” increased by 30% from 2013 to 2014.



Symantec.
Encryption Everywhere

Drivers to Encryption **EVERYWHERE**

- *More Frequent Attacks*
- *Larger Security Breaches*
- *New Google Rankings*
- *HTTP/2*



Symantec.
Encryption Everywhere



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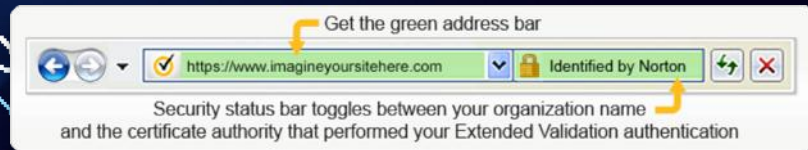


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Visual Indicators of **TRUST**



powered by Symantec



- **96 of the world's
100 largest banks**
- **90% of the
Fortune 500**
- **Issuing 13 Billion
certificate validation
checks every day!**



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Protects Your Customers

- *DDoS, XSS, etc.*
- *Heartbleed*
- *SQL Injection Attacks*
- *Malware*
- *New Emerging Threats*
- *And More!*



**Symantec.
Encryption Everywhere**

Encryption Everywhere is a Web Security Portfolio available as a **Service for Hosting Providers**

A unified approach to security integration, automation and management. Benefits include:

- Complementary Basic DV
- Basic Wildcard
- Integrated Go To Market including all Tools, MDF and dedicated support

Comparison



What Symantec Provides

- ✓ For hosters: High volume, low cost per certificate pricing for entry-level offering
- ✓ Full suite of certificate offerings
- ✓ Automated certificate issuance
- ✓ Encrypted by Symantec seal – upon request

What you get with others

- Poor validation
- No revocation capability
- Limits to number of certs for IPs, domains, names
- No wildcards
- Only available with purchase of other services
- No upgrade path

Together, we can change the game.

- Cohesive, scalable security portfolio
- Most trusted seals
- Best certification
- Multiple layers of security
- Physical + logical



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Symantec's Partnerships——iTrusChina



◆ **Symantec** 全球最大的数字证书认证机构，为网站、电子商务及通讯提供安全保护。Symantec 通过强大的加密功能和严格的身份认证，保护着全世界超过50万台服务器的安全。



◆ 2000年**天威诚信**首度将Verisign引入中国（2010年Symantec收购Verisign证书业务），为中国企业提供SSL证书服务，是合作时间最长、合作范围最广、合作层级最高的Symantec中国区战略合作伙伴。在16年的合作过程中，天威诚信和Symantec积累了丰富的合作经验，建立了完善的联合服务机制，并培养了强大的技术和服 务支持团队。**天威诚信获得亚太区唯一战略合作伙伴大奖及亚太区销售额第一名。**

Symantec's Partnerships——iTrusChina



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Symantec's Partnerships——iTrusChina



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天威诚信 “加密无处不在”

高价值，低成本的安全解决方案，为托管服务提供商专属定制！



免费+全线SSL证书



PKI/CA安全解决方案



全网HTTPS加密



CIM证书智能管理系统



MPKI管理平台



免费API接口

谢 谢



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