THE DOMAIN NAME INDUSTRY BRIEF

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THE VERISIGN DOMAIN REPORT

AS THE GLOBAL LEADER IN DOMAIN NAMES, VERISIGN REVIEWS THE STATE OF THE DOMAIN NAME INDUSTRY THROUGH A VARIETY OF STATISTICAL AND ANALYTICAL RESEARCH. VERISIGN PROVIDES THIS BRIEFING TO HIGHLIGHT IMPORTANT TRENDS IN DOMAIN NAME REGISTRATION, INCLUDING KEY PERFORMANCE INDICATORS AND GROWTH OPPORTUNITIES, TO INDUSTRY ANALYSTS, MEDIA AND BUSINESSES.

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EXECUTIVE SUMMARY

The fourth quarter of 2013 closed with a base of 271 million domain name registrations across all top-level domains (TLDs), an increase of 5 million domain names, or 1.9 percent over the third quarter of 2013. Registrations have grown by 18.5 million, or 7.3 percent, year over year.[1]

The base of country-code top-level domains (ccTLDs) was 123.5 million domain names, a 3.3 percent increase quarter over quarter, and a 12.1 percent increase year over year.

The .com and .net TLDs experienced aggregate growth, reaching a combined total of approximately 127.2 million domain names in the adjusted zone in the fourth quarter of 2013. This represents a 5 percent increase year over year. As of Dec. 31, 2013, the base of registered names in .com equaled 112 million names, while .net equaled 15.2 million names.

New .com and .net registrations totaled 8.2 million during the fourth quarter of 2013. In the fourth quarter of 2012, new .com and .net registrations totaled 8.0 million.

The order of the top TLDs in terms of zone size did not change when compared to the third quarter; all TLDs in the top 10 maintained their rankings.

The largest TLDs in order by zone size were .com, .tk (Tokelau), .de (Germany), .net, .uk (United Kingdom), .org, .cn (China), .info, .ru (Russian Federation) and .nl (Netherlands).[2]

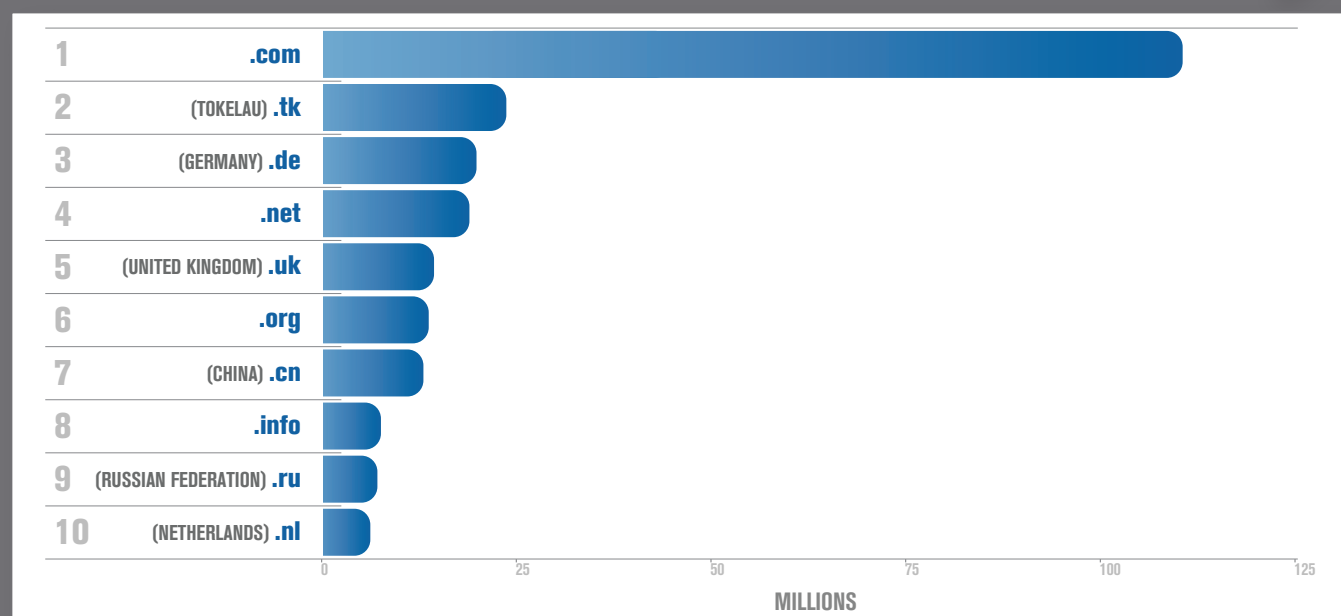At the end of the fourth quarter of 2013, 73 new gTLDs were delegated into the root.[3]

271 MILLION

Internet Domain Names

LARGEST TLDs BY ZONE SIZE

Source: Zooknic, December 2013; Verisign, December 2013

#	TLD		Value
1		.com	
2	(TOKELAU)	.tk	
3	(GERMANY)	.de	
4		.net	
5	(UNITED KINGDOM)	.uk	
6		.org	
7	(CHINA)	.cn	
8		.info	
9	(RUSSIAN FEDERATION)	.ru	
10	(NETHERLANDS)	.nl	

MILLIONS

1 The gTLD and ccTLD data cited in this report are estimates as of the time of this report, and subject to change as more complete data is received. Total includes ccTLD Internationalized Domain Names.

2 .tk is a free ccTLD that provides free domain names to individuals and businesses. Revenue is generated by monetizing the expired domain names. Domain names no longer in use by the registrant or are expired are taken back by the registry and the residual traffic is sold to advertisement networks. http://www.businesswire.com/news/home/20131216006048/en/Freenom-Closes-3M-Series-Funding#.UxeUGNJDv9s

3 The number of delegated new gTLDs is published by ICANN. http://newgtlds.icann.org//en/program-status/delegated-strings

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ccTLD BREAKDOWN OF ZONE SIZE

Total ccTLD registrations were approximately 123.5 million in the fourth quarter of 2013 with the addition of 3.9 million domain names, or a 3.3 percent increase compared to the third quarter. This is an increase of approximately 13.3 million domain names, or 12.1 percent, from a year ago.

Among the 20 largest ccTLDs, two exceeded 4 percent overall quarter-over-quarter growth: China and Tokelau. This marks four straight quarters where China (21.1 percent) and Tokelau (7.1 percent) have exceeded 4 percent growth.

As of Dec. 31, 2013, there are 283 global ccTLD extensions that are delegated in the root (including Internationalized Domain Names), with the top 10 ccTLDs comprising 65.6 percent of all ccTLD registrations.[4]

123.5
MILLION

ccTLDs up 3.3%
quarter over quarter

ccTLD Breakdown

Source: Zooknic, December 2013
For further information on the Domain Name Industry Brief methodology, please refer to the last page of the report.

1	2	3	4	5	6	7	8	9	10
TOKELAU .tk	GERMANY .de	UNITED KINGDOM .uk	CHINA .cn	RUSSIAN FEDERATION .ru	NETHERLANDS .nl	EUROPEAN UNION .eu	BRAZIL .br	ARGENTINA .ar	AUSTRALIA .au

There are about

2.5
BILLION

global Internet users[5]

China has the most Internet users in the world with[6]

618
MILLION

The U.S. has the 2nd most Internet users in the world with[7]

254
MILLION

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4 The number of ccTLD extensions cited in this report is published by IANA.

5 The number of global Internet users is published by We Are Social: http://wearesocial.net/blog/2014/01/social-digital-mobile-worldwide-2014/

6 CNNIC Released 33rd Statistical Report on Internet Development in China: http://www1.cnnic.cn/AU/MediaC/rdxw/hotnews/201401/t20140117_43849.htm

7 The number of U.S. Internet users was reported on by Harvard Business Review:
http://blogs.hbr.org/2013/12/why-china-loves-the-internet/?utm_source=Socialflow&utm_medium=Tweet&utm_campaign=Socialflow

HOW MANY DOMAIN NAMES COULD THERE BE AND ARE WE RUNNING OUT OF THEM?

No, the number of possible second-level domain names in any TLD is an extremely large number – over 10^{98} (1 followed by 98 zeros). Since domain names became available for registration almost 30 years ago, not a single TLD has had even a tiny fraction of its total number of possible domain names registered, not even .com – the largest TLD at 112 million names.

To help put the total TLD availability into perspective, today there are 2.5 billion Internet users around the globe. If every one of those users registered a domain name every single second for 30 million years, they would register a total of about 2.4 septillion domain names (that's 2.4 followed by 24 zeros). And *that* is less than one billionth of a billionth of one percent! Therefore, it is extremely remote we will ever run out of domain names.

The table below illustrates the total number of possible .com domain names, the number of names registered in .com and the number of names available to be registered in .com.

Example: .com Availability as of Dec. 31, 2013

| Length of .com Domain Name	Total Number of Possible .com Domain Names	Number of Names Registered in .com	Number of Names Available to be Registered in .com
13	230.6 quintillion	8.6 million	**over 230.5 quintillion**
12	6.2 quintillion	8.9 million	**over 6.1 quintillion**
11	168.4 quadrillion	9.0 million	**over 168.3 quadrillion**
10	4.6 quadrillion	8.7 million	**over 4.5 quadrillion**
9	123.0 trillion	7.9 million	**over 122.9 trillion**
8	3.3 trillion	6.9 million	**over 3.2 trillion**
7	89.9 billion	5.8 million	**over 89.8 billion**
6	2.4 billion	5.2 million	**over 2.3 billion**
5	65.6 million	3.1 million	**over 62.4 million**
4	1.8 million	928.5 thousand	**over 845.6 thousand**

DNS QUERY LOAD

During the fourth quarter of 2013, Verisign's average daily Domain Name System (DNS) query load was 82 billion, across all TLDs operated by Verisign, with a peak of 100 billion. Compared to the previous quarter, the daily average increased 0.9 percent and the peak decreased 5.5 percent. Year over year, the daily average increased 6.4 percent and the peak decreased 19.2 percent.

DNS Query Load by Quarter
Q1 2006 – Q4 2013
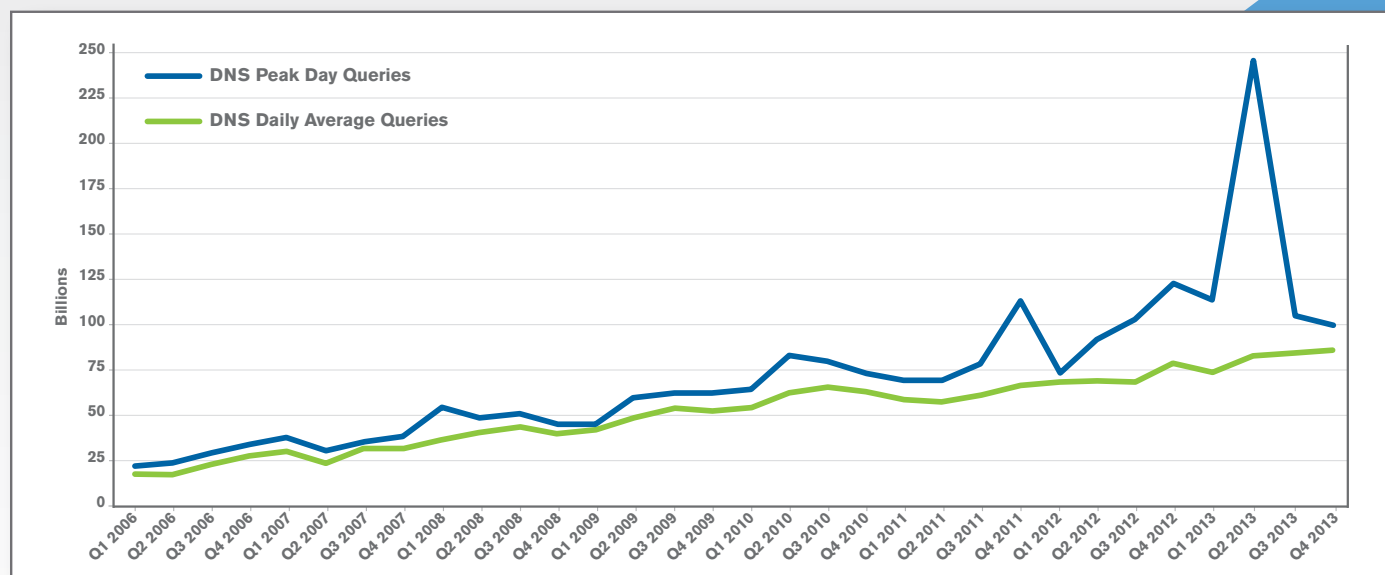
FEATURED ARTICLE

DNS OUTAGES: THE CHALLENGES OF OPERATING CRITICAL INFRASTRUCTURE

Recent attacks targeting enterprise websites have created greater awareness around how critical DNS is for the reliability of Internet services and the potentially catastrophic impact of a DNS outage. The DNS, made up of a complex system of root and lower level name servers, translates user-friendly domain names to numerical IP addresses. With few exceptions, DNS lives in a grey area between IT and network operations. With the increasing occurrences of distributed denial of service (DDoS) attacks, advanced persistent threats (APTs) and exploitation of user errors through techniques such as typosquatting and phishing, enterprises can no longer take a passive role in managing their DNS Internet infrastructure.

Implications of DNS Outages

With an average daily DNS query load of 82 billion at Verisign during the fourth quarter – and a fourth quarter 2013 peak of 100 billion – it is vital that Internet services be operational continuously. Without a doubt, the cost and requirements of running critical Internet infrastructure at these performance levels are high. However, if DNS operations were significantly interrupted for an extended time period, potential devastating results to businesses on the Internet could include any of the following:

• Revenue losses

• Impact to cash flow

• Productivity losses

• Damage to reputation and goodwill

• Compliance and/or reporting penalties

• Penalties and loss of discounts

• Impact to customers and strategic partners

• Diminished competitive advantage

• Employee morale and employee confidence in IT

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Staying ahead of Internet threats to avoid outages

With such detrimental results plaguing companies that experience DNS outages, it is more critical than ever to have a number of redundancies built into Internet infrastructure designed to help prevent this from happening. For instance, DNSSEC was deployed in the .com and .net zones to help assure users that the data they receive from their Internet request originated from the stated source and was not modified in transit by malicious actors. Additionally, Verisign has been instrumental in advancing DNS protocols for security and efficiency. For example, the company has worked to enhance the DNS-Based Authentication of Named Entities (DANE) protocol, which builds on the DNSSEC infrastructure to enable cryptographically secure communications. This technique can be used to exchange cryptographic credentials, such as for more generally enabling signed and encrypted email between Internet users or connecting to Internet websites with higher assurance that the destination they're arriving at is authentic and their transactions are secure.

Requirements to operate a TLD

It is crucial that infrastructure is powerful and resilient enough to enable enterprises to stay ahead of Internet attacks. Without a strong foundation to build off, enterprises cannot hope to effectively prevent future assaults as too much time is spent on damage control around existing hacks. Verisign recognized this necessity and designed a sophisticated infrastructure from the ground up to support .com and .net and address multiple complex, high-volume, real-time demands. This infrastructure includes commercial and modified diverse hardware, operating systems, middleware and custom applications, power provider and network provider diversity, and a number of other protections. Massive scale helps ensure global performance and data integrity at all times and supports real-time updates as new domain names are added at more than 75 authoritative name server sites around the world as well as the operation of the A and J roots, two of the 13 root servers supporting DNS operations for all domains on the Internet.

Planning for the future

Looking forward, Verisign believes the focus must be on evolving to not only meet the demands of customers and partners, but to also address the many challenges associated with maintaining 24/7 availability of infrastructure. As discussed above, the combination of a reliable, secure platform and significant capability is intended to provide a foundation for a wave of new applications and services that are poised for growth in the near future with advancements in cloud computing, big data, mobility, and the "Internet of Things." Increasing adoption of these new applications and services will once again raise the bar on infrastructure requirements to deliver available and secure services.

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LEARN MORE

To subscribe or access the archives for the Domain Name Industry Brief, please go to VerisignInc.com/DNIB. Email your comments or questions to domainbrief@verisign.com.

ABOUT VERISIGN

As the global leader in domain names, Verisign powers the invisible navigation that takes people to where they want to go on the Internet. For more than 15 years, Verisign has operated the infrastructure for a portfolio of top-level domains that today include .com, .net, .tv, .edu, .gov, .jobs, .name and .cc, as well as two of the world's 13 Internet root servers. Verisign's product suite also includes Distributed Denial of Service (DDoS) Protection Services, iDefense® Security Intelligence Services and Managed DNS. To learn more about what it means to be Powered by Verisign, please visit VerisignInc.com.

METHODOLOGY

The data presented in this report for ccTLDs, including quarter-over-quarter and year-over-year metrics, reflects the information available to Verisign at the time of this report and may incorporate changes and adjustments to previously reported periods based on additional information received since the date of such prior reports, so as to more accurately reflect the growth rate of the ccTLDs. In addition, the data available for this report may not include data for the 283 ccTLD extensions that are delegated to the root, and includes only the data available at the time of the preparation of this report.

For gTLD and ccTLD data cited with Zooknic as a source, the Zooknic analysis uses a comparison of domain name root zone file changes supplemented with Whois data on a statistical sample of domain names which lists the registrar responsible for a particular domain name and the location of the registrant. The data has a margin of error based on the sample size and market size. The ccTLD data is based on analysis of root zone files. For more information, see ZookNIC.com. Information on or accessible through this website is not part of this report.

The Internet Corporation for Assigned Names and Numbers' IDN ccTLD Fast Track Process enables countries and territories that use languages based on scripts other than Latin to offer users domain names in non-Latin characters. The first quarter of 2012 was the first quarter that Verisign reported on these TLDs that have been delegated into the root zone, including Russian Federation, Thailand, Jordan, Palestinian Territories, Saudi Arabia, Serbia and Sri Lanka.

Recognizing that this growth did not all occur in the first quarter of 2012, the changes in domain name registrations for each new TLD were phased in beginning with the quarter that the IDN.IDN variants were initially launched, in order to more closely model the changes in the worldwide domain name growth. Following the initial launch, the quarterly growth rate for previous TLD launches was applied to determine the domain base. These adjustments resulted in a growth curve for each TLD that is typical of historic TLD introduction lifecycles.
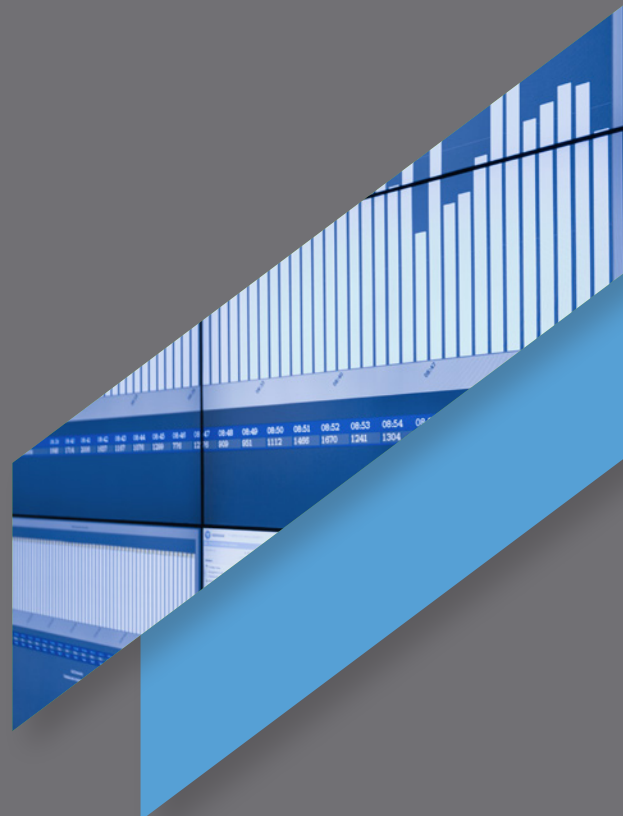
INDUSTRY EVENTS

Upcoming industry events through June 30, 2014

- Global Multistakeholder Meeting on the Future of Internet Governance: April 23-24, 2014, Sao Paulo

- Domaining Spain: May 8-10, 2014, Valencia, Spain

- Asia Pac Digital Marketing & gTLD Strategy Congress: May 14-15, 2014, Hong Kong

- T.R.A.F.F.I.C. WEST 2014: May 28-May 31, 2014, Las Vegas

- ICANN 50: June 22-26, 2014, London

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