THE DOMAIN NAME INDUSTRY BRIEF

VOLUME 11 – ISSUE 4 – JANUARY 2015

THE VERISIGN DOMAIN REPORT

AS A GLOBAL LEADER IN DOMAIN NAMES AND INTERNET SECURITY, 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 REGISTRATIONS, INCLUDING KEY PERFORMANCE INDICATORS AND GROWTH OPPORTUNITIES, TO INDUSTRY ANALYSTS, MEDIA AND BUSINESSES.

VERISIGN®

EXECUTIVE SUMMARY

The third quarter of 2014 closed with a base of 284 million domain name registrations across all top-level domains (TLDs), an increase of four million domain names, or 1.6 percent over the second quarter of 2014. Registrations have grown by 18.1 million, or 6.8 percent, year over year.[1]

The base of country-code top-level domains (ccTLDs) was 132.1 million domain names, a 2.5 percent increase quarter over quarter, and a 10.7 percent increase year over year.

The .com and .net TLDs experienced aggregate growth, reaching a combined total of 130.0 million domain names in the adjusted zone in the third quarter of 2014. This represents a 3.3 percent increase year over year. As of Sept. 30, 2014, the base of registered names in .com equaled 114.9 million names, while .net equaled 15.1 million names.[2]

New .com and .net registrations totaled 8.7 million during the third quarter of 2014. In the third quarter of 2013, new .com and .net registrations totaled 8.3 million.

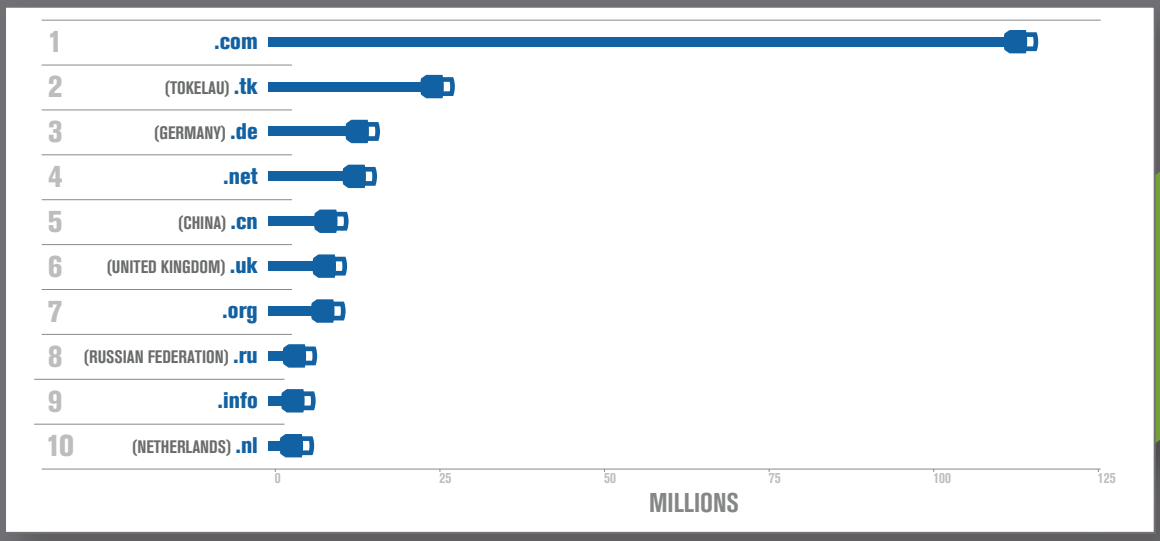
The order of the top TLDs in terms of zone size did not change from the second quarter of 2014.

The largest DDoS attack Verisign mitigated in Q3'14 was

90 GBPS[4]

LARGEST TLDs BY ZONE SIZE

Source: Zooknic, Q3 2014; Verisign, Q3 2014; Centralized Zone Data Service, Q3 2014



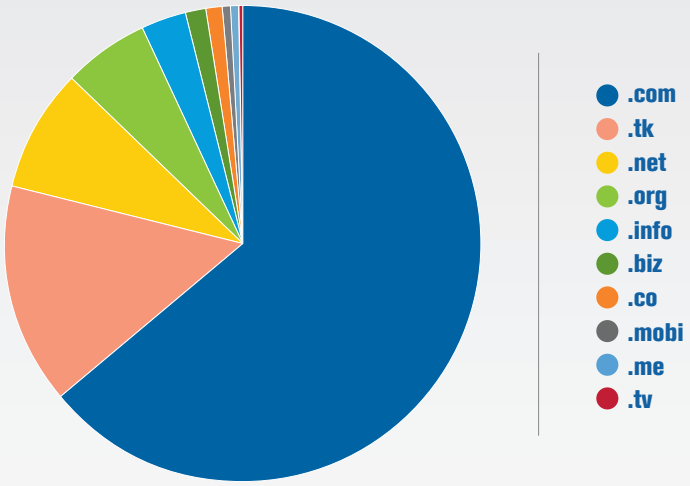
The largest TLDs in order by zone size were .com, .tk (Tokelau), .de (Germany), .net, .cn (China), .uk (United Kingdom), .org, .ru (Russian Federation), .info and .nl (Netherlands).[3]

1 The gTLD and ccTLD data cited in this report are estimates as of the time this report was developed, and is subject to change as more complete data is received. Total includes ccTLD Internationalized Domain Names.
2 Any difference between the sum of these numbers and the total figure for the domain name base is due to rounding.
3 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
4 Q3 2014 DDoS Trends Report, http://www.verisigninc.com/en_US/website-availability/ddos-protection/ddos-report/index.xhtml?loc=en_US?dmn=ddostrendsinfographic

gTLD BREAKDOWN BY ZONE SIZE

Largest gTLDs and ccTLDs Marketed as gTLDs by Zone Size

Source: Centralized Zone Data Service, Q3 2014; Zooknic, Q3 2014



Only

22

PERCENT

of users today believe that they could be the target of a cyber attack.[5]

Some ccTLDs, including .tk, .co, .me and .tv, are globally marketed, used by registrants and commonly treated by search engines as gTLDs.[6] The chart above ranks the zone size of both gTLDs and ccTLDs marketed as gTLDs, as of Sept. 30, 2014, with that classification taken into account. The top 10 largest gTLDs and ccTLDs marketed as gTLDs by zone size were .com, .tk, .net, .org, .info, .biz, .co, .mobi, .me and .tv, as of Sept. 30, 2014, which account for 179.2 million domain name registrations, or 63.1 percent of the total global domain name registrations.

DDoS attacks against Verisign customers in the Media and Entertainment industries accounted for

MORE THAN HALF of all

MITIGATIONS

in Q3'14.[7]

Smartphone and tablet browsing accounted for

52

PERCENT

of all online traffic on Thanksgiving Day.[8]

5 The number of Internet users that do not believe they could be a target of cyber attacks is reported by B2B International and Kaspersky Lab. https://press.kaspersky.com/files/2014/08/Kaspersky_Lab_Consumer_Security_Risks_Survey_2014_ENG.pdf

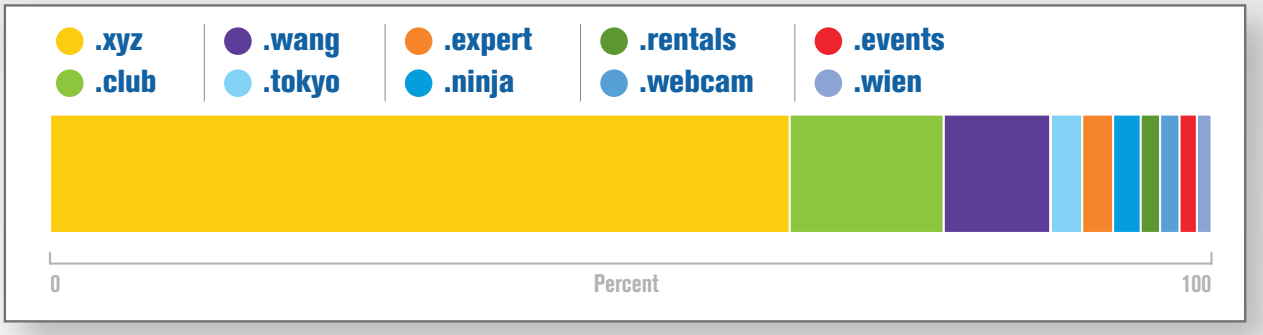
6 Google geotargetable domains. https://support.google.com/webmasters/answer/1347922?hl=en

7 Q3 2014 DDoS Trends Report, http://www.verisigninc.com/en_US/website-availability/ddos-protection/ddos-report/index.xhtml?loc=en_US?dmn=ddostrendsinfographic

8 The amount of smartphone and tablet browsing on Thanksgiving Day is reported by IBM. https://gigaom.com/2014/12/01/ibm-mobile-traffic-surpassed-desktop-traffic-on-thanksgiving-day/

Largest New gTLDs by Zone Size on Day 60 of Their General Availability Period

Source: Centralized Zone Data Service, Q3 2014



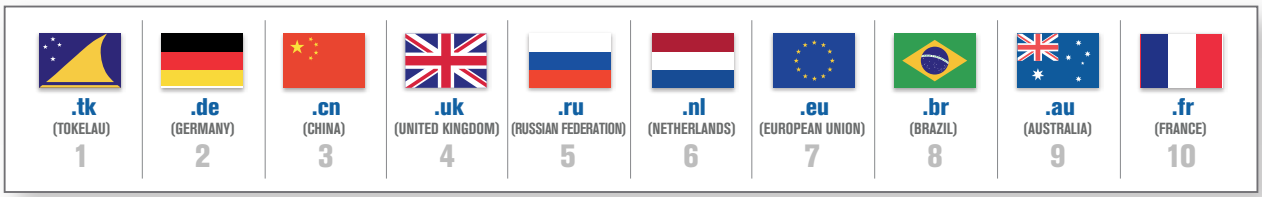
At the end of the third quarter of 2014, 413 new gTLDs were delegated into the root, with 91 new gTLDs delegated during the third quarter of 2014. New gTLD registrations totaled 2.0 million, or 1.3 percent of total gTLD registrations.[9]

The above chart captures the initial 60-day registration volume rank for those new gTLDs reaching 60 days of General Availability (GA) during the quarter. In the third quarter of 2014, 79 new gTLDs reached 60 days of GA and of those, the 10 largest new gTLDs, as measured by zone size on Day 60 of their respective GA period, were .xyz, .club, .wang, .tokyo, .expert, .ninja, .rentals, .webcam, .events and .wien.[10]

ccTLD BREAKDOWN BY ZONE SIZE

Largest ccTLDs by Zone Size

Source: Zooknic, Q3 2014
For further information on the Domain Name Industry Brief methodology, please refer to the last page of this report.



Total ccTLD registrations were approximately 132.1 million in the third quarter of 2014, with the addition of 3.2 million domain names, or a 2.5 percent increase compared to the second quarter of 2014. This is an increase of approximately 12.8 million domain names, or 10.7 percent, from a year ago.

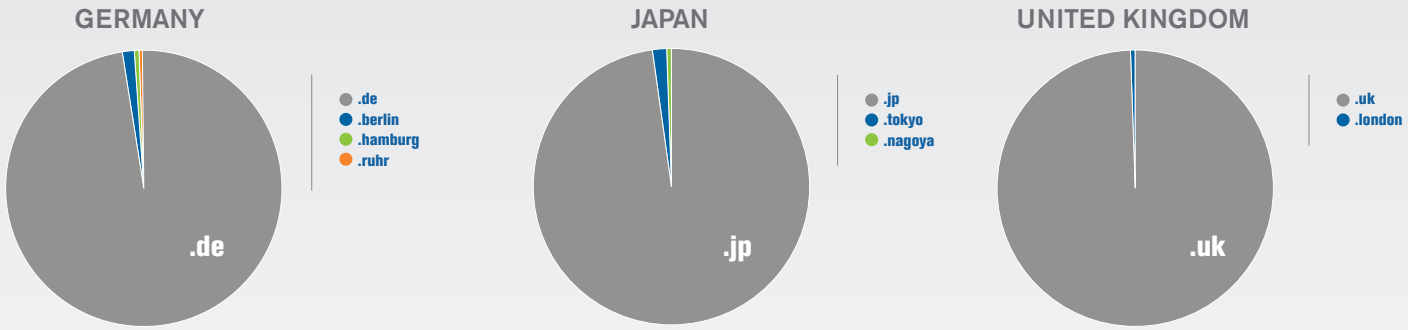
Among the 10 largest ccTLDs, .tk grew the fastest, at 9.1 percent overall quarter over quarter growth.

As of Sept. 30, 2014, there were 285 global ccTLD extensions delegated in the root (including Internationalized Domain Names), with the top 10 ccTLDs comprising 67.1 percent of all ccTLD registrations.

9 The total number of gTLDs and their registrations are published through the Centralized Zone Data Service. https://czds.icann.org/en
10 The new gTLDs that reached 60 days of General Availability during the third quarter was determined using:
http://ntldstats.com/launch?orderby=start&orderdir=asc&filterby=start&start=2014-07-01&end=2014-10-01&tld=&filter%5B%5D=4

New Geographic gTLDs Compared to Existing ccTLD

Source: Centralized Zone Data Service, Q3 2014



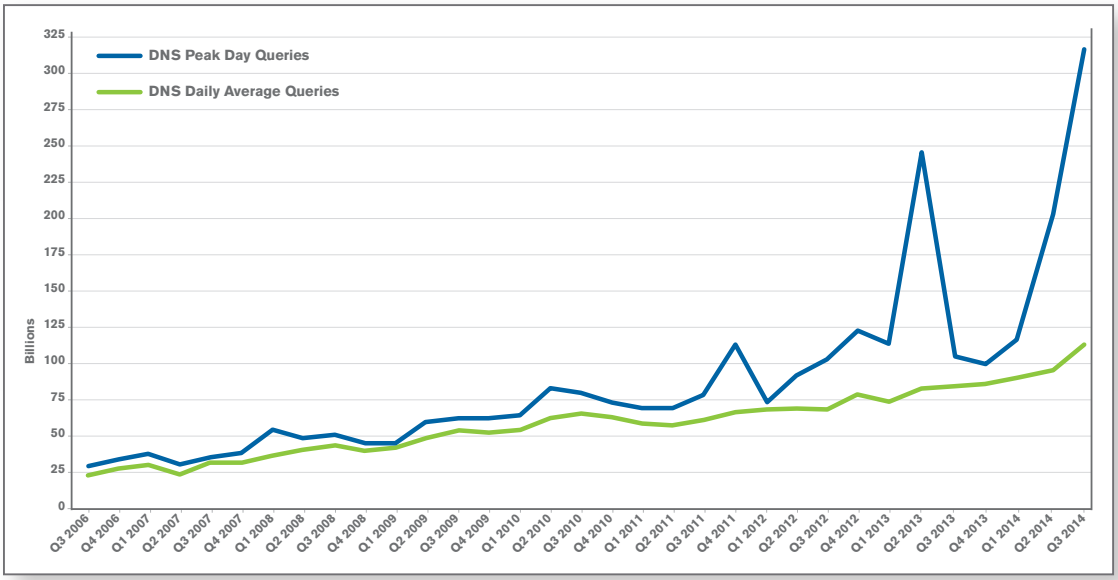
Among the geographically based new gTLDs that have been delegated, six have had more than 1,000 registrations since entering GA at the end of the third quarter of 2014. These include: .berlin (Germany) with approximately 138,000 registrations, .tokyo (Japan) with approximately 21,000 registrations, .london (UK) with approximately 21,000 registrations, .hamburg (Germany) with approximately 16,000 registrations, .ruhr (Germany) with approximately 8,000 registrations and .nagoya (Japan) with approximately 3,000 registrations. As of Sept. 30, 2014, .berlin, .hamburg and .ruhr made up 0.87 percent, 0.10 percent and 0.05 percent, respectively, of the total registrations for the referenced Germany TLDs; .tokyo and .nagoya made up 1.5 percent and 0.22 percent, respectively, of the total registrations for the referenced Japan TLDs; and .london made up 0.20 percent of the total registrations for the referenced UK TLDs.

DNS QUERY LOAD

During the third quarter of 2014, Verisign's average daily Domain Name System (DNS) query load was 114 billion across all TLDs operated by Verisign, with a peak of 318 billion, the highest average and peak query loads in a single quarter to date. Compared to the previous quarter, the daily average increased 20.1 percent and the peak increased 55.6 percent. Year over year, the daily average increased 40 percent and the peak increased 202.1 percent.

DNS Query Load by Quarter

Q3 2006 – Q3 2014



FEATURED ARTICLE

CRYPTOCURRENCY AND THE DOMAIN NAME SYSTEM

Cryptocurrency has gained considerable attention over the past year thanks in large part to the popularity of Bitcoin.

Introduced in 2008 by the pseudonymous "Satoshi Nakamoto," Bitcoin combines cryptographic protocols with a clever incentive scheme to create a new, decentralized "currency" not connected to any central bank.[11] Newly minted Bitcoins are awarded to "miners" as compensation for their work after checking that previous Bitcoin transactions have been recorded correctly on a public "block chain." Bitcoin participants then transfer Bitcoin balances to each other in digitally signed transactions. Although participants are identified only by their numeric Bitcoin "addresses," all transactions are recorded on the block chain. As a result, the recipient of a transaction can check that the sender is "good for the money," at least up to the time of the most recently confirmed update to the block chain.

The idea that cryptography might enable a new kind of payment system is fairly old, dating back at least as far as a breakthrough paper presented by David Chaum at the CRYPTO 1982 conference.[12] In Chaum's system, a central bank issues specially formatted currency values to participants with the property that only the bank can create the values – but even the bank doesn't know which actual values a participant has received. Participants then exchange these values with each other as payment for goods and services. But because the bank doesn't know the specific value issued to any given participant, the bank can't determine, based on later deposits, which transactions have actually taken place between participants – hence the term "digital cash" for this type of system.

Bitcoin is different than a "digital cash" system in several ways: First, it doesn't have a central bank that issues digital currency values, and Bitcoins are not backed by a physical-world currency. Instead, currency is minted through the Bitcoin protocol itself as compensation for work. Second, no bit strings have actual "value" that could be exchanged as payment or deposited at a bank. Rather, each participant's balance is determined by the transaction history recorded on the block chain. A participant demonstrates that it is authorized to transfer some of its balance by creating a digital signature, where the public key for verifying the signature corresponds to the participant's Bitcoin address.

Finally, transactions in Bitcoin are public, but participants are identified only by their Bitcoin addresses. As a result, anyone – including a central bank – can determine which transactions have taken place. However, this determination is at the level of the addresses involved. No one necessarily knows the specific individuals or organizations behind the addresses, unless they choose to identify themselves.

By the time Chaum published his paper it was already becoming clear that the Internet (then called the "ARPA Internet" or ARPANET) could eventually have a profound impact on commerce. Ronald Rivest, Adi Shamir and Leonard Adleman, in their 1978 paper that introduced the RSA cryptosystem envisioned, "The era of 'electronic mail' … may soon be upon us."[13] They also stated that the digital signature capability they described (motivated by Whitfield Diffie and Martin Hellman's foundational paper two years prior) would have "obvious applications in 'electronic mail' and 'electronic funds transfer' systems."[14]

Nearly four decades later, electronic mail, electronic funds transfer and many other forms of e-commerce are nearly ubiquitous, with cryptographic protocols playing an essential role. However, that role has been limited to providing digital versions of security services that historically were achieved by physical means. Cryptographic protocols help protect the exchange of credit card information between consumers and merchants, and between merchants and banks, that in past generations would have been delivered on paper charge slips. They likewise protect electronic funds transfers that otherwise might have been done via fax or over the phone. Although at vastly higher volumes, the underlying transactions are substantially the same as in past generations, involving transfers of value in conventional currencies issued by central banks.

11 Satoshi Nakamoto. Bitcoin: A Peer-to-Peer Electronic Cash System. Manuscript, October 31, 2008. https://bitcoin.org/bitcoin.pdf

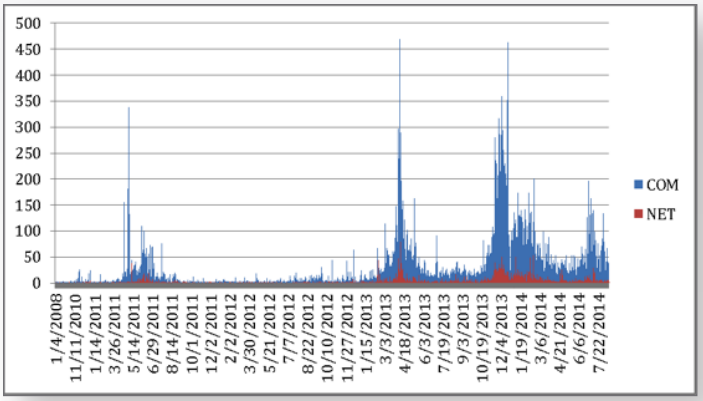
12 David Chaum. Blind signatures for untraceable payments. In Advances in Cryptology: Proceedings of CRYPTO'82, pages 199-203. Plenum, 1989. http://link.springer.com/chapter/10.1007%2F978-1-4757-0602-4_18#

13 R.L. Rivest, A. Shamir and L. Adleman. A method for obtaining digital signatures and public-key cryptosystems. Communications of the ACM, 21(2):120-126, February 1978. http://people.csail.mit.edu/rivest/pubs/RSA78.pdf

14 Whitfield Diffie and Martin E. Hellman. New directions in cryptography. IEEE Transactions on Information Theory, IT-22(6), November 1976. http://www-ee.stanford.edu/~hellman/publicatoins/24.pdf

That's where the emerging cryptocurrency ecosystem takes a leap forward: The ecosystem itself creates the currency. The central bank is replaced by the decentralized crowd of miners; and the banking system's private ledgers are replaced by the public block chain.

In addition to the more infrastructure-oriented information mentioned in this article's sidebar, Bitcoin-related domain name activity more generally continues to increase, as illustrated in the chart below, which appeared recently on Verisign's Between the Dots blog.[16] In the first year following the publication of Satoshi Nakamoto's paper, only eight domain names containing the string "bitcoin" were registered, and in the second year only 295. The number of registrations has grown steadily since then with more than 15,000 in the .com and .net domains from January to August 2014 alone. This rate is on par with the pace in 2013 that produced more than 23,000 registrations. High-value domain name sales have been taking place as well, with BTC.com selling for $1 million.[17]



Source: Verisign Data.

Although it's still unclear how much impact Bitcoin and other current cryptocurrency systems will ultimately have on the "real world" of finance, what is clear already is that Internet-based applications – enabled by ubiquitous networking and computing – are a powerful force for financial innovation. Whether a block-chain-based decentralized cryptocurrency, digitally signed transactions attached to an account at a central bank, or something else entirely, the future of money is in Internet-based transactions. It will be interesting to see where the emerging blends of new currencies and old, decentralized and delegated, anonymous and branded, take us next.

COMMONALITIES WITH THE DNS

Around the same time that Diffie, Hellman and RSA introduced their cryptosystems, and Chaum pioneered digital cash, Paul Mockapetris set forth the design of the Domain Name System, described in RFC 882.[15] E-commerce as we know it today may still have been more than a decade away, but Mockapetris foresaw that any application in the rapidly expanding Internet would need "a consistent name space which will be used for referring to resources," one that "must be maintained in a distributed manner." The result was a system that is both centralized and distributed. The central root and consequently the single global name space of DNS ensure consistency, but the name space can be delegated into independent subspaces, operated by multiple parties all over the world.

That global, distributed name space has proven to be fundamental in numerous Internet applications, and shown again to be so in the cryptocurrency ecosystem, where although the currency itself requires no central authority, the operation of the ecosystem is based throughout on navigation to resources through DNS. For example, the Bitcoin Community Foundation makes its home page at bitcoin.org; system specifications are maintained at bitcoin.it; source code and improvement proposals are distributed via github.com; and block chain information is made available at blockchain.info. DNS is also the mechanism by which nodes in the Bitcoin peer-to-peer network discover each other via the "bitcoin-seeder" network crawler. Moreover, even though Bitcoin addresses are anonymous, any organization that's invested in building a brand will draw people to its website, identified by domain name, if it wants to accept Bitcoin payments – rather than just advertise a numeric Bitcoin address. The Bitcoin address, like the website's IP address, remains behind the scenes.

Finally, although source code and other documentation could conceivably be published by putting "anchors" into the block chain (and there are promising proposals along these lines), the reliable and confident way to make Bitcoin resources available to the public today is to build on what the public already trusts. People can then navigate to the information in which they're interested the same way they get to everything else on the Internet: domain name to IP address to resource.

Even a decentralized ecosystem needs a trusted, neutral way to connect back to the rest of the world.

15 P. Mockapetris.RFC882: Domain Names – Concepts and Facilities. November 1983. http://www.rfc-editor.org/rfc/rfc882.txt

16 Domain Registrations: Is Bitcoin Going Mainstream? Between the Dots. December 2014. http://blogs.verisigninc.com/blog/entry/domain_registrations_is_bitcoin_going

17 Jenin Mathew. Bitcoin Domain BTC.com Sold for $1M. International Business Times, August 4, 2014. http://www.ibtimes.co.uk/bitcoin-domain-btc-com-sold-1-1m-1459644

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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 a global leader in domain names and Internet security, 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 the IDN ccTLDs which were delegated in the root zone at that time.

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, 2015:

- ICANN 52: Feb. 8-12, 2015, Singapore
- IETF 92: March 22-27, 2015, Dallas
- Domaining Europe: April 23-25, 2015, Valencia, Spain
- ICANN 53: June 21-25, 2015, Buenos Aires

Statements in this announcement other than historical data and information constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 as amended and Section 21E of the Securities Exchange Act of 1934 as amended. These statements involve risks and uncertainties that could cause our actual results to differ materially from those stated or implied by such forward-looking statements. The potential risks and uncertainties include, among others, the uncertainty of whether the U.S. Department of Commerce will approve any exercise by us of our right to increase the price per .com domain name, under certain circumstances, the uncertainty of whether we will be able to demonstrate to the U.S. Department of Commerce that market conditions warrant removal of the pricing restrictions on .com domain names and the uncertainty of whether we will experience other negative changes to our pricing terms; the failure to renew key agreements on similar terms, or at all; the uncertainty of future revenue and profitability and potential fluctuations in quarterly operating results due to such factors as restrictions on increasing prices under the .com Registry Agreement, changes in marketing and advertising practices, including those of third-party registrars, increasing competition, and pricing pressure from competing services offered at prices below our prices; changes in search engine algorithms and advertising payment practices; the uncertainty of whether we will successfully develop and market new products and services, the uncertainty of whether our new products and services, if any, will achieve market acceptance or result in any revenues; challenging global economic conditions; challenges of ongoing changes to Internet governance and administration; the outcome of legal or other challenges resulting from our activities or the activities of registrars or registrants, or litigation generally; the uncertainty regarding what the ultimate outcome or amount of benefit we receive, if any, from the worthless stock deduction will be; new or existing governmental laws and regulations; changes in customer behavior, Internet platforms and web-browsing patterns; system interruptions; security breaches; attacks on the Internet by hackers, viruses, or intentional acts of vandalism; whether we will be able to continue to expand our infrastructure to meet demand; the uncertainty of the expense and timing of requests for indemnification, if any, relating to completed divestitures; and the impact of the introduction of new gTLDs, any delays in their introduction, the impact of ICANN's Registry Agreement for new gTLDs, and whether our new gTLD applications or the applicants' new gTLD applications for which we have contracted to provide back-end registry services will be successful; and the uncertainty regarding the impact, if any, of the delegation into the root zone of up to 1,400 new gTLDs. More information about potential factors that could affect our business and financial results is included in our filings with the SEC, including in our Annual Report on Form 10-K for the year ended Dec. 31, 2013, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. Verisign undertakes no obligation to update any of the forward-looking statements after the date of this announcement.