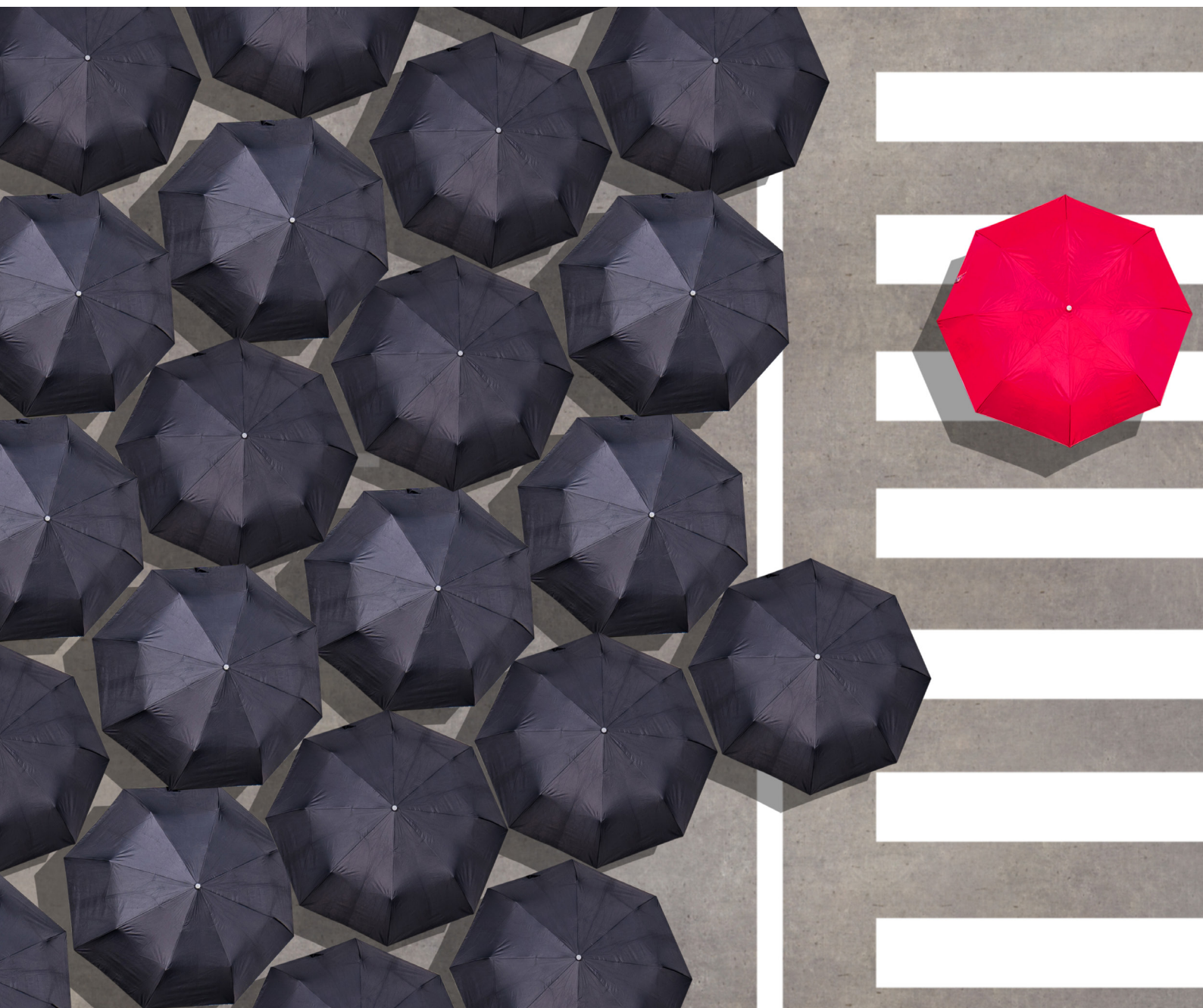# ccTLDs: a recollection of the usage of country code domain names and their importance for identity and culture

Bruna Martins dos Santos and Kimberly Anastácio

ccTLDs: a recollection of the usage of country code domain names and their importance for identity and culture

Introduction

Some may say that the urge to belong is a fundamental part of the human experience. We are created in communities and in them we develop language, worldviews, culture. Aside from negative aspects, the Internet may help us in our search for belongingness: we can reach out to those who are like us, we can reveal expressions of ourselves, we can create and sustain culture by projecting what is inside us to the outside world.

Domain names were created to facilitate identification and traceability on the Internet: through domain names people and computers can locate and exchange information. Thus, when we choose a domain name for a website, for example, we proactively search for the one which best represents what we want to express. While this is true of all sorts of domain names, it especially resonates for those whose primary purpose is to encompass a territory or ideal.

Country-Code Top-Level Domain Names (ccTLDs) are two-letter suffixes mainly used by countries to denote their Internet addresses and, possibly, their symbols and cultural identity. Some examples include .co (for Colombia), .br (for Brazil) and .fr (for France). When we see certain country-code domain names, right away we connect the symbol (.uk) to its main idea (United Kingdom). By doing so, we think about cultural aspects attached to the symbol. For instance, I can expect to access content in English in a website that uses ".uk". Other ccTLDs are more difficult to tackle. I need more than just see a .co domain to understand its target audience: is the domain alluding to Colombia? Is it being used as "corporation"?

It is not just ccTLDs that can express our identities online. Other domain names are useful means to encompass an ideal or symbol. For example, .asia is widely used in and for the Asian market. Non-geographical names may serve this purpose as well: .hotel may be used for those aiming to be identified with this specific market. What makes ccTLDs special then?

We argue that there are at least four reasons why country-code domain names are good resources for reinforcing online identity:

1. They are historical. The development of ccTLDs occurred concurrently with the Internet's own growth. They were created bearing in mind the importance for users and computers to locate territory online;

2. Many ccTLDs were responsible or related to the regional and local development of the incipient academic and commercial Internet;

3. ccTLDs reinforce a nation's or region's imaginary on the Internet. In an environment that is as global as can be, ccTLDs have served, since their creation, as identifiers of local content and local identities. Even some ccTLDs that might explore their usages apart from the geographical connection may, by doing so, expand a territory's presence online;

4. ccTLDs may help promote local content, serving as a safe and traditional space for local users to diffuse their own content with a local target audience.

The article aims to shed light on how identity plays on country-code domain names. We tell a short story on ccTLDs and their usage. Then, we explain how regional identity is maintained in ccTLDs. We also give some examples of their usages. Finally, we point out the flexibility and dynamism of ccTLDs.

A short story about the ccTLDs and their use

Country-Code Top-Level Domain Names are derived from the ISO 3166, a list assembled by the International Organization for Standardization to define internationally-recognised codes of letters that can be used in reference to countries. While the ISO list provides three-letter codes, RFC 920 defined ccTLDs as the English two letter code (alpha-2) identifying a country according to the ISO Standard. Later on, RFC 1591 and the Internet Engineering Task-Force reinstated the importance of the ISO standard in spite of acknowledging that the decision of what is a country was not under the scope of the Internet Assigned Numbers Authority (IANA) functions.

While IANA did not have a mandate to "decide what is and what is not a country", some ccTLDs News memos were issued about different subjects, including the relationship between ccTLD managers and governments (ccTLD News Memo #1). The document discussed the need for a mailing list dedicated to promoting some level of organization between ccTLD managers, some initial guidelines on policies and procedures for the use of each country code and the possibility of an IANA intervention in order to help contending parties reach agreements. Last but not least, the document highlighted that IANA took "the desires of the government of the country very seriously, and will take them as a major consideration in any transition discussion".

At the time, despite RFC 1591 mentioning that ccTLD managers should reside in the country of the requested domain, IANA allowed .ly (Lybia's ccTLD) to be delegated to a British company - inaugurating what is not considered abnormal these days, and also the case of .tv (Tuvalu Country Code), whose registry provider nowadays is the US-American company Verisign.

Later in 2000, the Internet Corporation for Assigned Names and Numbers (ICANN)'s Governmental Advisory Committee (GAC), when issuing the Principles and Guidelines for the Delegation and Administration of Country Code Top-Level Domains, reinforced the notion that both the ccTLD registry and its administrative contact should be resident or incorporated in the territory, unless formally decided otherwise by the relevant government. The GAC principles were also issued to guide the "relationships between governments, their ccTLDs and ICANN", and stated that governments were encouraged to ensure that country-codes were administered in the public interest and under the framework of national public policy, relevant laws and regulations.

It is important to mention that in the early days of ccTLDs, in light of some political entities being left out of the ISO 3166-1 list, the European Union was not eligible for a ccTLD once it was a supranational entity and therefore not acknowledged until the ICANN Board passed a resolution approving the delegation of .eu in 2005.

Back in the 2007, the GAC issued a set of principles dedicated to the introduction, delegation and operation of the new Generic Top-Level Domains. Thus, apart from the traditional gTLDs, like .com and .edu, it would be possible to have domains such as .church, .bike etc. The GAC Principles regarding new gTLDs, which were edited prior to the first round of applications of the New gTLD Programme, required ICANN to avoid the introduction and delegation of any two-letter top-level domains under the scope of generic names in order to avoid confusion with ccTLDs - adding to what some may consider as an implicit consideration of RFC 1591 with regards to 3-letters being gTLDs.

When it comes to the definition of a country or territory name, the new gTLD programme's Applicant Guidebook (AGB) expanded the concept brought by the IETF a little bit when it considered that the following would consist of a country or territory name: (a) an alpha-3 code listed in ISO 3166; (b) a long-form and small-form name or a translation of it in any language; (c) a short or long-form name with any association with a code that has been defined as exceptionally reserved; (d) a separable component of a country name designated on the "Separable Country Names List" or a translation of a name appearing on the list; (e) a permutation of any of the mentioned names; or (f) a name under which a country is known by an intergovernmental or treaty organization. ICANN's policies and caution when dealing with ccTLDs illustrate how sensitive these domains may be and how important they tend to be for their local Internet Governance environment.

Regional identity and ccTLDs

Geographic domains, whether under the shape of a ccTLD, a geoTLD or both represent an important complement to our Internet semantics. The introduction of country-codes into the Domain Name System (DNS) allowed us a more concise Internet, with addresses that contained clear indications of the origin of a determined content. The development of the DNS, the ccTLDs and the regional-specific branding offered by them allowed companies to distance themselves from simply being .com operations - and therefore possibly perceived as American.

Country-Codes offer businesses, public institutions, non-governmental organizations, and other Internet users the chance to add meaningful addresses to their websites, therefore, allowing everyone prominent and regional suffixes that can say a lot about their products and claims. Additionally, ccTLDs also allow for clearer communications from governments and their contents. When looking at addresses such as "http://www.culture.gouv.fr" you can attest that such extensions, when added to the .gov (in this case .gouv) second-level domain name are rather descriptive of the e-government services provided.

Despite the two-letters being in latin alphabet or in a language-specific script, it is safe to say that ccTLDs generally indicate the region or the language that the website's content is relevant for. As a matter of fact, translations of various two-letter country-codes into other national scripts have already been delegated by ICANN to ccTLD registry operators as ccTLDs. One good example is the Bulgarian ccTLD .bg, which was translated into its Cyrillic version .бг.

When discussing accessibility and inclusion, one main priority that comes to mind is the effort to welcome internationalised domain names and multilingual content online. Considering that not all nations and populations recognise latin characters, the need to expand Internet identifiers in order to match other scripts and to reflect cultural variety is key. For years the lack of Internationalized Domain Names (IDNs) in the root domain zone forced nations to develop solutions that would enable users to enter local character strings into browsers.

In that sense, a number of governments and Domain Name registries have adapted their standards in order to support IDN registrations. With regards to the European continent, the first approved native scripts used at the top-level were рф (Russian Federation), ελ (Greece) and срб (Serbia). Another example is the completion of the German alphabet in 2010, when .de started allowing the registration (at the time under a sunrise period) of the eszett, or the 'ß'.

One of the core themes of the Global Information Society is the promotion of universal access to information services. In that sense, the impact of IDNs in achieving a multilingual Internet and promoting access is undeniable. To the extent that they allow navigation in languages other than english, Internationalised Domain Names are also fostering the production of local content and, consequently, online linguistic diversity and the reinforcement of national or regional identities.

Examples of ccTLDs in Europe

Some ccTLDs are deeply connected to a regional culture and/or symbol. The domain name for the Federal Republic of Germany, for example, is one of the most used in the world. "de", which stands for Deutschland, has more than 16 million active domain names. According to DENIC, the domain registry, one in six Germans has a .de domain. Besides, anyone who wants to be active on the German market "preferably combines their names with .de, relying on the trust Internet users have in the brand .de", according to the registry's own website.

The ccTLD was created in 1986, 12 years before ICANN was even established. As in many other countries, this country-code grew from the academic world: after being briefly administered by a US-American network operator, the ccTLD came to the Department of Computer Science of the University of Dortmund. Today, the ccTLD is administered by DENIC, a German not-for-profit cooperative. The cooperative states that its purpose is to serve the benefit not only of Germans but of the global Internet community. Besides, the registry fosters local Internet activities and studies, and is also active in Internet Governance bodies.

Thus, .de is an historical component of the Internet in Germany, helping develop the Internet locally and internationally even today. It is widely and traditionally connected to the German identity, fostering local content. Besides, since 2004 DENIC has allowed special characters1 (IDNs), important for the German language (e.g Müller and the letter "ß"), exemplifying how the ccTLD has embraced local culture and helped establish a reliable domain for Germans.

Moreover, in romance languages, like Portuguese or French, .de stands for "of". Some users prefer to use it as a qualifier of meaning (e.g. lojaespecial.de/sapatos - translated from Portuguese as specialstore.of/shoes). This unusual usage of the ccTLD does not invalidate its importance for people in Germany - it illustrates the malleability of domain names.

The ccTLD for the United Kingdom is also one of the most used, second only to .de in Europe. It was created even earlier than .de, in 1985. As with its German counterpart, it started in an academic environment at University College London and then in the UK Education and Research Networking Association. With the increasing commercial potential of the Internet, in 1996 the domain name began to be administered by a private entity called Nominet, who has been the ccTLD's registry ever since.

Curiously, ".uk" was not in the ISO list that established the ccTLDs we know. "GB" (Great Britain) was the ISO 3166-1 code for the region. The domain, however, was instituted before the ISO list was assembled and thus .gb never gained momentum. Moreover, the ccTLD was at the center of the region's Internet development and even today, Nominet undertakes public benefit activities and participates in Internet Governance bodies.

Both .uk and .de are widely used by each country's own population, governments, universities, companies. By having institutional websites and companies whose main target are people from a certain nationality who use a specific ccTLD on a large scale, the notion of a safe and traditional space made by and for people identified with the domain names on the Internet is reinforced. This strengthened identity based on ccTLDs not only stimulates a region's market, but also promotes territoriality and a sense of belonging - even in a loose space such as the Internet.

The feeling of belonging is noticeable in ccTLDs that are not quite related to a single country as well. In 2000, the European Commission started a public consultation on the possibility of implementing a domain to represent Europe. Communications to the European Council and Parliament were issued and, in 2002, the first regulation on the creation of .eu was established. In that same year, there was a call for expressions of interest and, in the subsequent year, the official selection of the registry that was supposed to administer the new domain. EURid was the chosen one, a private not-for-profit consortium created by three national registries: Belgium, Italy and Sweden. By 2004, EURid had signed an agreement with the Commission, and Public Policy Rules to the domain were established. Afterwards, ICANN delegated the domain to EURid.

A press release from the European Commission states that .eu "will not replace the existing national country code TLDs in the EU, but will complement them and give users the option of having a pan-European internet identity for their 'internet presence'". For European citizens, it means that the domain "will provide a place in cyberspace, in which their rights as consumers and individuals are protected by european rules, standards, and courts". For firms, the domain will "enhance their internet visibility within and beyond the EU single market, advertise their pan-European outlook and provide greater certainty as to the law".

Considering the cultural diversity and the coexistence of many languages within the continent, the stakeholders engaged in .eu's creation even tried to cope with francophones by stating that .eu was chosen over ".ue" because the domain derives from "Europa" and "Euro" and not from "european union". The adaptability of .eu as a domain for all Europeans is a "testament to the spirit of community, innovation, humility and determination that made the EUropean IDentity possible" (GELDER, 2016, p.31).

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1   List with all the 93 characters additionally allowed in .de-domains: dpd o6+s s s * aj e * a+aj +gj ks)dks +è j) ` ki]ḙ o+è j)_d] rʲ _pan)hop+

The domain is mainly used in websites designed for pan-European or cross-border audiences within the continent. Is is used to exhibit European identity, as opposed to websites that use a wider symbol (e.g .com) or a more strict one (a ccTLD). Some people even explore language opportunities: for Portuguese speakers, for example, "eu" means "I". Still, the domain is used mainly to reinforce the European Union and as a competitor to other traditional domains that suit wider meanings like .com.

A matter of identity and dynamism

Despite the existing ccTLDs, some communities may find solace in other names. An ISO domain name may become a true representation of a community or region, but other domains may as well. For example, apart from the obvious connection to the Internet's favorite pet, .cat is used and administered for the Catalan-speaking community. The domain's registry even faced political disputes in Spain, but its usage as an icon for Catalunya is undeniable. Furthermore, a ccTLD originally created to encompass certain geographical regions may be used by communities that explore and play with ccTLDs (for example, .io is used by the developer community) due to their affinity to offer other potential meanings. Even given the diversity of ccTLDs' usage and the existence of other possibilities of expression on the DNS, country-codes tend to be historically important to the local Internet development and are a reliable space for a prosperous expression of a shared identity.

ccTDLs are dynamic by nature. Ever since their creation, their administration and usage have been diverse and mutable. Even when ccTLDs are used for different purposes than the ones attached to a cultural and/or geographical cause, it does not invalidate the importance of Country-Code Domain Names as symbols of identity. In fact, this indicates how the Internet, even in its architecture and infrastructure, may foster diversity and is open to resignification. For example, the Belgian ccTLD (.be) is used by the national population as an identifier for content made for Belgians. However, it is also used by Youtube, the video-sharing platform, in its shortened URLs (e.g. youtu.be/q845Bln30yQ). When people see the Youtube URL, they do not think about .be as an identifier of Belgium. However, if they see "adidas.be", "ticketmaster.be", or "senaat.be", they can expect personalized content for Belgians or people interested in the country. Thus, a sole domain may have different meanings and still be an important part of the local Internet environment and market.

We are seeing the flourishing of disputes on domains names that may be culturally important for some regions or cultural groups - as the .amazon and .gay cases illustrate. The .amazon case has been disputed since 2012 by the multinational "Amazon.com Inc." and South American countries that share the Amazon rainforest in a battle that involves both identity and sovereignty issues. Furthermore, the "dotgay LLC" company applied for .gay as a community domain. Registrants would then have to be verified as gay or gay-friendly in order to register such a domain. While the company had support from some gay rights groups, others questioned its existence since its definition of "gay" was supposedly too broad in trying to encompass the whole LGBTQI+ community. Until the beginning of 2019, no solution had been found for such domain. These disputes and power dynamics are far from being solved because they strike on domain names' main purpose: to enable identities and expressions online. Thus, these dynamics are natural for the development of the DNS and the Internet itself. In this regard, ccTLDs are an important part of the domain names puzzle: they are traditional, dynamic and vital for the development of the Internet.

About the authors

Bruna Martins dos Santos holds a BA in Law from the Centro Universitário de Brasília and works as an Advocacy strategist at Coding Rights, with a special focus on Data Protection, Human Rights in the Digital Age and Internet Governance. Lastly, Santos currently holds the position of Chair of the Non-Commercial Users Constituency (NCUC) at ICANN.

Kimberly Anastácio has a MSc in Political Science from the University of Brasília. She studied Internet Governance from the perspective of Latin American ccTLDs. Anastácio currently works with data science applied to social issues.

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Council of European National Top-Level Domain Registries

CENTR is the association of European country code top-level domain (ccTLD) registries, such as .de for Germany or .si for Slovenia. CENTR currently counts 54 full and 9 associate members – together, they are responsible for over 80% of all registered domain names worldwide. The objectives of CENTR are to promote and participate in the development of high standards and best practices among ccTLD registries. Full membership is open to organisations, corporate bodies or individuals that operate a country code top level domain registry.

This paper is part of a series of articles covering industry research, historical data analysis and the future of technologies such as digital IDs, published over the course of 2019 to mark CENTR's 20th Anniversary. These publications do not necessarily present the views of CENTR or of the CENTR community.

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