
Namespace 2.0 – Virtual Identities for Communities

Domains are the main place to maintain a permanent identity in the Internet. Companies and individuals, but also political parties and civil administrations rely on domains that are easy to communicate, are as intuitive as possible and are semantically comprehensible, for the Internet has long become a fundamental channel of communications.

The number of domains required increases as the number of users increases and as the Internet spreads; currently in excess of over 30% per year globally. The namespace for the German community under the top-level domain *.de* now includes 11 million domains and has thus become very "crowded", as each domain can only be issued once. This is no surprise, as everyone would like (as for personalised car number plates) to have a domain which is short, descriptive and easy to remember. However *.com*, by far the most popular top-level domain with over 70 million domains, also offers a global identity for hundreds of different languages and communities.

At the same time, with increasing emphasis on regional, local and personal aspects of the Internet, a mega trend has developed which provides a natural counterbalance to the dreams of globalisation from the Internet's early years. Regional self-confidence and independent regional administration are growing in significance, both in developing countries and in the industrialised states. These trends are reflected in economic, cultural and socio-political aspects and encompass many business models and value creation chains. Local searches and location-based services are good examples of this hyperlocal development.

With this emphasis on regions, a natural need arises for local addressing, which means local domains and namespaces. The extension of the namespace, which is also called the Domain Name System (DNS) is, in this context, one of the major challenges presented to ICANN (the Internet Corporation for Assigned Names and Numbers), the administrative organisation that is responsible for the approval of top-level Internet domains.

Communities are the basis of human identity

"Everybody wants to belong to a tribe" is one of the essential human paradigms. In the meantime, community has replaced tribe, but the terms always cover a group of persons who develop common aims and understanding, share experiences and either have or develop their own identity. Communities benefit from the fundamental idea, that all participants make a contribution to success, in that they participate.

At the same time, whether intended or unintended, everyone is a member of multiple communities. For example, someone may be a Berliner, a German, a European, a party member, a member of a football club, a dog owner, an Audi driver and today has a profile at Xing or MySpace. In many communities, people have to use their correct names. It is however in our nature, as we do for carnivals, to wear a disguise and to adopt a new identity. The space created by the Internet offers

numerous opportunities which users exploit happily and in many different ways. You may thus be called LonelyStar15 at YouTube, have a private, second identity with *mail@littlestar.de*, communicate for work using *maria.smith@min.gov.de* and have your own family homepage under *www.smith-berlin.com*.

Top-level domains can be an attribute which endows identity and which contributes to the shaping of a community and its members and to further develop it. If top-level domains are introduced to members in an intelligent way, they integrate the top-level domains into their daily life. This can lead to a strong feeling of identity, of pride and of a feeling of community, as you can see with the top-level domain *.cat* introduced in 2005 for Catalonia.

Place branding in the Information Age

By marketing in the entire world, top-level domains can create a product with a clear brand. New York shows how brands can help to extend the identity of a city with slogans like "Big Apple", "I love NY" and maybe soon *.nyc*. The values externally associated with a city can cover both modern and traditional aspects: sustainability, variety, self-fulfilment, openness, potential and opportunities.

In the Information Age, the city is home to the so called Creative Class, whose creativity and innovative power are essential for economic prosperity. Planners, engineers, marketers, artists, in general people with ideas form this social class. For a city like Berlin which lost great parts of its former industrial base through the Second World War, the division during the Cold War and globalisation, they are critical for its survival. The norms of the Creative Class change society as a whole – with individuality and openness for diversity at the core instead of conformity and homogeneity.

Competition for the Creative Class is global. One old rule is obsolete: People used to come to the cities because the found work here. The creative class comes to cities because here they find cultural offerings, restaurants, clubs, a tolerant climate or bicycle paths. Studies have shown that cities with a well developed brand such as New York and Paris grow because of their diversity. Yet, such success is not planned but has grown organically. Successful cities have an interesting history that allowed change, progress and diversity. A good relationship between the citizens and their respective administration is also characteristic for successful city brands. This is helpful, considering the fact that each citizen is a walking advertisement for his or her city. The active presentation of its positive attributes strengthens a city brand. A TLD that is being used by a city's citizens and institutions in their everyday communication can aid significantly to this process.

ICANN regulates access to the market

The Domain Name System (DNS) was developed in several stages and so far includes two categories of top-level domains (TLDs): Generic top-level domains" (gTLDs) and "country code top-level

domains" (ccTLDs), which are aligned to the ISO standard 3166. There is no technical difference between ccTLDs and gTLDs.

ICANN plays a central role in the creation of new top-level domains. It is one of ICANN's main tasks, to extend and diversify the namespace with new top-level domains. So far there have been two rounds of approvals, in 2000 and in 2004, where 16 new top-level domains were approved, although there were applications for over 200 endings. In December 2005, ICANN decided to introduce further top-level domains. Applications are expected to be accepted from the start of 2008. The first new top-level domains should then go online towards the end of 2008.

The previous rounds of approvals have shown a tendency to develop the namespace in two directions. On the one hand, top-level domains with a generic nature (*.info*, *.mobi*, *.name*, *.job* etc.) and, on the other hand top-level domains with a local, geographic or cultural nature (*.eu*, *.cat*, *.asia* etc.).

The application process for a new top-level domain is not trivial. Applicants have to meet a variety of technical, operational, economic and political criteria and have to demonstrate that their suggestion has the support of the community concerned. Just the high cost of an application means that applications for communities with a population of less than a million people are scarcely economically feasible in many of the cases.

City top-level domains as the next big thing?

A domain plays an important role in the online and offline communication of your own identity within the community to which you belong or would like to belong. The choice for 6.5 billion people, over 6,000 languages and cultures and numerous other communities at the top level, is however currently restricted to about 250 country codes such as *.de* and to about 20 generic endings such as *.com*, *.info* or *.biz*. Many communities do not find themselves adequately reflected in the Internet addressing and thus find ways around it. In Germany, the term "berlin" is used in over 100,000 domains (such as *www.zoo-berlin.de*) so as to demonstrate that they belong to the Berlin community. The synonym "nyc" can be found in over 300,000 domains.

Statistical data from the Internet Systems Consortium (ISC) also demonstrate that a city like Berlin, has many more registrations than over 150 countries which have their own top-level domain. So far however, neither Berlin nor other large cities, nor comparably large regions or cultural communities have their own top-level domain.

These numbers make it clear why large cities such as Tokyo, New York or Berlin, but also conurbations such as the Ruhr region, which have more inhabitants and economic power than many national states, need their own Internet address space. So-called GeoTLDs, in other words top-level domains using geographic or geopolitical terms such as *.berlin*, *.bayern* or *.galicia*, can develop an

individual identity in the Internet for the cities or regions concerned, providing new opportunities for development for individuals, companies and institutions.

This need for local addressing has led, for example, to the German borough of Rosenheim making an agreement with the operators of the top-level country domain for Romania (.ro), to be able to use this top-level domain for the Internet presence of the public administration in Rosenheim (*www.stadt.ro* - The city of Rosenheim has 60,000 inhabitants). Similar dual use can also be seen with the endings .la (used for Los Angeles) .by (e.g. as *www.bayern.by* for the Bavarian tourism marketing board or .sh (for Schleswig-Holstein).

Need is also perceived for other community top-level domains. A good example is provided by the 3 million people in the USA with the surname Smith, who form a large natural community. Following the syntax *www.firstname.surname* a very individual and personal domain with email functionality (*mail@tim.smith*) could result. Need is even growing for their own namespace in artificial communities. Several hundred thousand IBM employees could be accommodated under their own top-level domain, as could secure bank web pages under .hsbc as a top-level domain. The operators of social networks are also currently considering the option of offering their members their own namespace, .xing, .myspace or .google could be imagined.

ICANN expects that the community top-level domains, and here particularly for cities, regions and cultural areas, will play a major role in future applications. In the meantime there are almost a dozen initiatives of which some will present at the IGF 2007 in Rio: .berlin, .nyc, .paris, .baries (Buenos Aires), .sco (Scotland), .cym (Wales), .bzh (Bretagne), .gal (Galizien), .eus (Basque country), .lly (León), .vlx (Flanders), .lac (Latin America), .africa.

The .berlin Initiative

.berlin is a bottom-up initiative of Berliners for their own top-level domain on the Internet, taking account of the interests of Berliners worldwide. The basis of the .berlin community is the people who identify themselves with the name Berlin. The community includes citizens, companies and organisations from Germany's capital city Berlin, other cities and villages with the name Berlin, people who were born in a Berlin or who work in a Berlin or its immediate vicinity. It also includes people with personal, social, cultural, economic or other relationships to a Berlin, as well as people with the surname Berlin. dotBERLIN GmbH & Co. KG (a Limited Liability Limited Partnership) has initiated this project and will apply for .berlin at ICANN in the name of this entire community.

dotBERLIN was founded in July 2005. Currently over 60 organisations and persons that represent the community of Berliners, e.g. chambers, guilds, city organisations, ICANN accredited Internet providers, tourism organisations, hotels associations, SMEs and citizens, are partners of dotBERLIN. dotBERLIN's advisory board has a consultative and supporting position for the approval activities and for the subsequent operation of the top-level domain .berlin. The advisory board also helps to anchor, in a socially responsible way, the top level domain .berlin in the Berlin community made up of political,

commercial, cultural, social and individual interests. It also advises dotBERLIN on the issuing of domains, taking account of the various interests fairly and transparently. The heterogeneous composition of the advisory board can make use of a variety of experience, knowledge and contacts.

The local addresses available with *.berlin* are concise and create an identity for citizens, companies and institutions. Those providing and looking for information, goods and services can thus intuitively come together. The *.berlin* domains strengthen the feeling of community amongst Berliners, improve communication and make interaction easier, thus providing a stimulus for innovation and development. Both for Berliners and for non-Berliners, places called Berlin become more attractive as a place to visit, as a commercial location and as a place to live.

Risks and opportunities of community TLDs on the example of *.berlin*

Opportunities

Individual namespace – The limited number of domains that can currently be sensibly used has led to a unique competition. The increasing number of disputes about domains is an indicator that the top-level domains existing so far do not suffice to provide individuals, organisations and communities with enough choice. At least for the Berlin community, this need can be satisfied with a top-level domain *.berlin* and the theoretically unlimited selection of new domains associated with that.

Benefits to city marketing and the competitive advantage – Today, cities and regions compete with one another, on a national and international level, in the fields of politics, culture, tourism, investment, export and population. A top-level domain for Berlin creates explicit attention, it is a flexible instrument of communication and as part of the Internet infrastructure is an ongoing advantage of the location for Berlin's external city marketing. Through web sites such as *www.economy.berlin*, *www.jobs.berlin* or *www.tickets.berlin*, what Berlin has to offer becomes intuitively accessible for people all around the world. Through the use of numerous *.berlin* domains, such as in email traffic, free branding takes place. By this a top-level domain can be a real "Unique Destination Proposition", for which cities are searching for.

Internal community branding – For Berlin and the Berliners *.berlin* offers a new space for expression and development and provides an independent voice in the global Internet. The experience of a top-level domain *.berlin* can be an internal marketing instrument, leading to a strong sense of community, to a clear sense of identity and to more self-confidence within the Berlin community. It can be an independent brand, which is also supported by the population because everyone can use it in their daily life and will see it in advertising.

Economic potential – With *.berlin* new competitive opportunities in e-commerce will be created for the local Internet economy, especially through new portals for community related enterprises and in the area which was previously linked to a generic or to a country top-level domain. *www.hotel.berlin* would thus have a good chance of wresting a significant market share from *www.hotel.de* or

www.hotel.com. Importantly the new namespace will lead to a value added chain within the community that includes registration services, technical infrastructure, web services, design, advertising and a domain after market.

Intuitive use and semantic comprehensibility - City top-level domains offer the opportunity of structuring a top-level domain from the bottom up. Through the opportunity of devolving domains of public or community interest, many of the common expressions can be used more intuitively and have a semantic meaning for the user. This includes terms from certain sectors such as *www.cinema.berlin* or terms from the public sector such as *www.taxoffice.berlin*. Particularly for digital public services (e-government), an efficient naming infrastructure can be established, with which individuals and companies can more easily access administrative resources, and which can quickly be located by a regional, local and international public.

Opportunity for everyone to participate - City portals such as *Berlin.de* are single addresses for the city and its institutions in the Internet. Companies, organisations and individuals cannot actively influence this city address due to legal and regulatory reasons. In future, city top-level domains such as *.berlin* and the numerous resulting *.berlin* domains will represent an identity for every single inhabitant, and for its companies and organisations. The *.berlin* domains reach the entire community, right out to its most remote member. City top-level domains can open up a whole range of opportunities for every single person to participate in the urban community and to engage in social networking.

Quality when searching – A structured city top-level domain can make easier navigation a reality. Wiki technology can help to support a self-organising city directory at the level of the domains. One example: every domain owner could have the option of entering their domain in horizontal and vertical categories and to thus network with other domain owners.

Risks

Death of the city portal? – The top-level domain *.berlin* is not a city portal. Nevertheless, critics have expressed their reservations, that a top-level domain *.berlin* will make the city portal *Berlin.de* superfluous. The opposite is however true. The city address *Berlin.de* will remain the first address for residents and visitors, as with the top-level domain *.berlin*, sensible infrastructure for residents will be created which supplements *Berlin.de*, making access easier via intuitive domains such as *www.courts.berlin*. Apart from that, there is an excellent opportunity through cooperation between *Berlin.de* and *.berlin* for *Berlin.de* to broaden its base and to further extend its leadership as the metropolitan portal in regional, national and international circles. For *Berlin.de*, *.berlin* is a unique opportunity to position itself in the innovative trend in city top-level domains by being a first-mover worldwide, thus setting new standards.

Endangering the stability of the Internet? – In a well-respected study "Signposts in Cyberspace" from 2005, the US Congress had an investigation carried out as to how many top-level domains could

be approved without endangering the stability and security of the worldwide Internet. The study came to the conclusion that the introduction of dozens of top-level domains per year presents no technical problems. In an interview at CNET, ICANN head Vint Cerf spoke of 10,000 possible top-level domains. Even the ex-head of ICANN, Dr. Hagen Hultzsich said at a parliamentary evening in February 2007 in Berlin to members of the Bundestag, representatives of the government and EU representatives, that there would be no problem with ICANN approving 10,000 top-level domains. The domain name system (DNS) today includes well over 100 million second-level domains below about 270 top-level domains. In theory, just as many top-level domains as second-level domains could be operated. By the way, top-level domains can have a length of up to 63 characters so *.oberammergau* would not pose any problems.

Will the Internet user be confused? – It is constantly asserted that new top-level domains would confuse Internet users. Representative studies across Germany in 2007 investigated this question for the first time and came to the conclusion that, especially for descriptive top-level domains such as *.info*, *.jobs* or *.museum*, Internet users have a semantic understanding. Additionally an overwhelming majority of Internet users stated that regional top-level domains could help to allocate public services, businesses and other city's resources much better than today. For *.berlin*, the majority of the approximately 8,000 people questioned presumed that Internet sites under *.berlin* would be commercial or private websites relating to Berlin, i.e. about and from Berlin and by Berliners. The question on confusion can thus clearly be answered with a no. Confusing the user by the abuse of official terms such as *www.police.berlin* or *www.courts.berlin* can be prevented right from the start by reserving and thus protecting, these terms for the responsible civic authorities.

Can Berlin exercise any influence? – The namespace created with the new top-level domain *.berlin* has a higher level significance, as far as sovereignty goes, as lasting and sustainable Internet infrastructure for the local authority of Berlin, the Berlin economy and Berlin residents at a local, national and international level. To take account of Berlin's multi-faceted interests, despite the legally required private commercial operation, cooperation is desirable to ensure that the process of assigning *.berlin* domains is transparent, free from discrimination and is in line with the market. This should take account of the interest of Berlin and its institutions, the economy and tourism, in that corresponding domains will be exclusively reserved for these interests. It should also be ensured that as a preventative measure, domains that are suitable for use with racist content or for content liable to corrupt the young or to incite hatred, will be excluded from being freely registered. It is not possible to completely prevent abuse. Damage to the image of the county and city is however not to be expected by this, as Internet users (as for our country top-level domain *.de*) do not presume that this is administered by the state or by the local authority.

Will .berlin break up the hierarchy of the Internet? – A hierarchy only actually exists in that on ICANN's central computer, about 270 top-level domains have been entered and that all are at the same hierarchical level. A real hierarchy does exist in the nomenclature of the domain itself e.g. as *http://john.henry.smith.de*. The ending *.de* is here top level, "smith" is second level and so on. Particularly the new domains, whose endings mean something to the user (as for example with

www.pergamon.museum), provide intuitive and semantic orientation. The Internet does not break up at all.

Must I register a .berlin domain as a company? – Whether you want to register a .berlin domain for your organisation depends upon whether you want to associate your organisation, its products or services with Berlin. *www.bmw.berlin* certainly makes more sense, *www.budweiser.berlin* probably less. To take account of organisations' interests, for .berlin, there will be a priority registration phase for the owners of trademarks.

Is it only Berlin that wants a top-level domain? – Just as Catalonia with .cat has set a trend towards top-level domains for cultural and language communities, .berlin is a pioneer for city top-level domains and counts, with other initiatives such as .nyc (New York City, USA) or .paris, as one of the driving forces for this new category of top-level domains.

Sources: <http://www.connectingnyc.org>, www.dotparis.net or <http://www.domainesinfo.fr/extension/1200/paris-le-paris-un-vrai-projet.php>

Summary

Even in the age of Web 2.0., mass collaboration and the Long Tail, enough fundamental values of our society remain and can even flourish anew through the new tools. The effort towards an individual namespace is an outstanding example of how the basic force of communities can even be developed in the Internet. For communities, their own top-level domains are valuable tools for branding inside the community as well as for external marketing.

From 2008 there will regularly be new top-level domains. In our communication we will have to learn how to deal with them as we do with new websites, car brands or yoghurts, but with that small difference; top-level domains are basically designed for eternity.

There now seems to be no doubt that the trend to individual namespaces for communities will succeed; the opportunities clearly outweigh the risks and concerns. The initiatives that arose and which will present at the Internet Governance Forum IGF in Rio de Janeiro are seen, at the very least at ICANN, as a sensible development to extend the namespace in the Internet. Whether and to what extent the new top-level domains can create sustainable added value for the communities themselves and for Internet users worldwide will be shown when the first candidates go online.

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Dirk Krischenowski. With .berlin, the Berlin based for-profit organisation dotBERLIN GmbH & Co. KG is currently preparing its application for the first worldwide top-level domain for a large city. .berlin is expected to be approved in the coming year.