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City Identifiers on the Net: A Closer Look

Posted by [Dirk Krischenowski](#) on Apr 24, 2006



Cities are among the largest regional authorities and natural human communities we know. Of course there are countries like China, India or the USA which count some hundred million or even a billion inhabitants. But there are also countries with far less than 100,000 inhabitants, like Tuvalu, Andorra or Barbados. If city communities are ranked by the number of inhabitants as independent entities among country communities, cities like Tokyo, New York, Shanghai or London head the ranking because they have more citizens than many countries. London for instance has more inhabitants than the Netherlands and Tokyo outpaces Canada in that respect. Interestingly, there are only around 400 cities worldwide with more than 1 million inhabitants. Population wise, the average metropolis outranks 50% of all countries.

Kentor, Smith and Timberlake mentioned in their article "[The World-System's City System: A Research Agenda](#)" in 2004 how cities are positioned today:

"Cities' relative standing in the world-system of places is thus increasingly likely to reflect their importance as nodes for world commerce and business rather than reflecting the geopolitical status of the nation in which they are situated."

How Cities use their own Top-Level-Domain

There are only a few cities worldwide, which have also a country status and for this reason their own country code Top-Level Domain (ccTLD) based on the [ISO 3166 code table](#). These cities are:

- Hongkong - .hk
- Singapore - .sg
- Vatican - .va
- Monaco - .mc
- Macau - .mo
- Gibraltar - .gi

The only city ccTLDs with a respectable number of domains registered under that TLD are .hk and .sg. The .hk TLD counted over 100,000 domains in February 2006 (<http://www.hkirc.hk>). The .sg TLD counted over 60.000 domains at the same date with a strong growth of over 20% annually (<http://www.nic.net.sg>).

Although not being underdeveloped with regard to economy, internet penetration and use, the TLDs of Vatican, Monaco, Macau and Gibraltar are not widely used, even by the people and organizations being residents of the respective cities. Monaco counts for some hundred second level domains (<http://www.nic.mc>). The only existing Vatican second level domain is <http://www.vatican.va>, no registration services are provided according to IANA.

How Cities are represented on the Net today

Governmental City Websites

Today we see various methods how cities are represented on the internet. On the one hand there's the official representation of the city government and its institutions, authorities and administration on the net. The URL cities use varies from country to country.

In Germany nearly all cities and even small regional authorities (towns and villages) can be found by using the pattern <http://www.cityname.de>. German courts have granted the respective .de second level domains in numerous lawsuit decisions to the city. Only a very few city name domains were registered by individuals with the same surname (first come, first served). Many European countries go the same way (e.g. <http://www.paris.fr>, <http://www.madrid.es>, <http://www.tallinn.ee> or <http://www.amsterdam.nl>), and also Japan (e.g. <http://www.metro.tokyo.jp> or <http://www.city.hiroshima.jp>).

In the UK each city has the possibility to use its own <http://www.cityname.gov.uk> domain (e.g. <http://www.london.gov.uk>). A comparable pattern is seen in South Africa (e.g. <http://www.capetown.gov.za>), in China (e.g. <http://www.ebeijing.gov.cn>) and in Australia (<http://www.brisbane.qld.gov.au>). Interestingly not all major cities are making use of this pattern (e.g. <http://www.bristol-city.gov.uk> instead of <http://www.bristol.gov.uk> or <http://www.cityofsydney.nsw.gov.au> instead of <http://www.sydney.nsw.gov.au>).

Interestingly the governments of Hong Kong and Singapore don't use [hongkong.hk/.com](http://hongkong.hk.com) or [singapore.sg/.com](http://singapore.sg.com). These websites are used commercially by parties selling hotel rooms, tickets and other things. The governments are using <http://www.gov.hk> and <http://www.gov.sg>. The government of Macau is using <http://www.gov.mo>, the government of Monaco <http://www.monaco.gouv.mc>.

In contrast US official city websites have no clear identifier system, despite having the option to represent the city government by a .gov or .state abbreviation .us domain. Some cities are presented by their full name or abbreviation in a second level under .gov (e.g. <http://www.nyc.gov>, <http://www.phila.gov> or <http://www.atlantaga.gov>). Others like San Francisco using a different system under .us (e.g. <http://www.ci.sf.ca.us>). Some are using .com (like <http://city.aspenpitkin.com>).

It also remains unclear which system is used by local authorities with the same name. For instance cities and towns in the USA with the name Berlin are using various options for their official home URL:

- <http://www.town.berlin.ct.us>
- <http://www.1berlin.com>
- <http://www.townofberlinmd.com>
- <http://www.townofberlin.com>
- <http://www.berlinvt.org>
- <http://www.ci.berlin.nh.us>
- <http://www.berlinnj.org>

Cities and towns with the frequent name York (both UK and USA) have found the following way:

- <http://www.york.gov.uk>
- <http://www.yorkmaine.org>
- <http://www.yorkcitysc.com>
- <http://www.yorkcity.org>

Commercial City Websites

Besides the official websites of the local city government there's a bunch of websites which looks like official city websites, at least at first sight. Most of them are commercially driven and use common TLDs like .com to catch users by browser type-in or good search engine rankings. Examples are:

- <http://www.barcelona.com>
- <http://www.capetown.com>
- <http://www.london.com>
- <http://www.hamburg.com>
- <http://www.nyc.com>

A lot of local and WIPO lawsuits have been filed by city governments against the owners of the <http://www.cityname.com> websites, but in most cases where the owner of the domain runs the website in good faith the city lost the lawsuit (see also point Bullet 259 WIPO II Recommendations).

Worldwide Trend from Third Level to Second Level Domains

Most gTLDs like .com, .info or .net are available at the second level. The pattern <http://www.domainname.tld> is easy and intuitively to understand by everyone and generates domains which are short and easy to remember. Also most country code TLDs worldwide offer domain registrations at the second level like <http://www.domainname.fr> or <http://www.domainname.pl>. Nevertheless some ccTLDs only offer domain registrations at the third level. Especially the UK and former Commonwealth countries (Australia, New Zealand, South Africa and UK overseas territories) tend to have a system with .co.tld, .com.tld, .org.tld, .net.tld, .gov.tld and other second levels. The second level principle multiplies the available name space and offers clear identifiers to restricted user groups (e.g. government, NGOs).

Although having established this principle successfully (like the UK) some ccTLDs opened up their TLD for unrestricted registrations at the second level. For instance, when .sg opened for second level registrations an amount of 14,500 domains has been registered in a 12 months period starting early 2005. In the same time only 4,000 third level domains under .com.sg have been registered. A similar experience was made in Hong Kong where unrestricted .hk second level domains were available from 2004. Meanwhile, in Japan the number of .jp domains outpaced the number of .co.jp (and other third level domains) and is still growing by a factor 10 compared with the .co.jp (<http://jprs.jp>).

Other country code TLDs which very successfully liberated at the second level are China, India and Arabic Emirates. Others are supposed to follow this trend in the future.

In conclusion the second level principle tends to be the more successful principle from the perspective of users and the market, despite many advantages of the third level principle.

Irregular Use of TLDs for City or Regional Purposes

.LA—Laos ccTLD, in use for Los Angeles, USA

The best known irregular use of a TLD as virtual identifier is the 10 million metropolis of Los Angeles, California. .la is originally the ccTLD for Laos (Lao People's Democratic Republic) but it's also marketed as the Los Angeles TLD.

With .la a ccTLD is widely used for a city for the first time. The LA Names Corporation, based in Guernsey, has gained the rights to market .la registrations. They use the registry provider services of Afilias Ltd. and wholesale registrar services of DreamHost, based in California. .la has no registration restrictions.

The .la domain was ultimately expected to see as many as 1 million registrations. For any business, organization or individual that wants to be identified with Los Angeles, a .la address is "the place to be" the marketing claim announced. Accordingly to LA Names Corporation around 10,000 domains are already registered. However, DreamHost has announced that it is discontinuing registrar services as of April 1, 2006, after which the registrations will be taken over by an as-yet unnamed registrar.

In conclusion, the experiment was not completely successful. One of the reasons might be the operation of the TLD by a politically unstable government. No corporation builds up a business on a domain and markets that domain without having the certainty that this domain will survive the next 5 or so years. Another reason is the limited reach of the .la TLD on registrar level—only a few registrars offer .la domains as resellers to their customers.

.RO—Romanian ccTLD, in use for city of Rosenheim, Germany

.ro is the ccTLD for Romania. In contrast to the private sector initiative at .la the city government of the German city of Rosenheim, Bavaria, entered into a deal. The Rosenheim

city officials in 2005 entered into a cooperation agreement with the Romanian National Institute for R&D in Informatics (ICI) in Bukaresti which is also ccTLD registry for .ro. dotRO is unrestricted and second level domains can be registered at the local registrar Aicovo GmbH.

Examples for the domains which are actively used by Rosenheim government and administration are:

- <http://www.stadt.ro> City of Rosenheim (60,000 inhabitants)
- <http://www.bibliothek.ro> City Library
- <http://www.parkplatz.ro> Parking system
- <http://www.wirtschaft.ro> Business development
- <http://www.bildung.ro> Education
- <http://www.veranstaltungen.ro> Event calendar of the city
- <http://www.klinikum.ro> Local clinic

These domains work as reference domains and should stimulate further registrations by businesses and individuals. Main arguments used to market .ro are the very limited namespace available with the .de TLD, which counts nearly 10 million registrations, and the short and memorable domains created by .ro. As of today a sizeable number of regional based companies and organisations are using .ro domains.

.BY—Belarus ccTLD, in use for Bavarian websites

.by is the ccTLD for Belarus (White Russia). The .by TLD is not widely used by bavarians but there's a very prominent example: The official website <http://www.bayern.by> of the Bavarian Tourism Agency which is in active use since 2001. The German registrar BayNIC is additionally offering so-called Bavarian domains with the syntax <http://www.domainname.region.by>, for instance .nbg.by for the region around the well know city of Nürnberg. Most of the regional abbreviations are based on the number plate abbreviations of the particular region.

.CH—Swiss ccTLD, in use for Chicago and Chinese websites

.ch is the ccTLD for Switzerland. There are only very few domains reported, where organisations and individuals of Chicago, USA (6 millions inhabitants), are using .ch domains for their purposes. At the <http://www.domainpulse.de> conference in February 2006 the Swiss registry for .ch, SWITCH, announced that they think of opening their TLD to second level to Chinese characters at the second level. There seems to be a clear demand from Chinese immigrants in Switzerland.

.TO—Kingdom of Tonga ccTLD, in use for websites of Torino, Italy

.to is the ccTLD for the Kingdom of Tonga. A few Domains are observed which are used by entities from Torino, Italy, a city with around 900,000 inhabitants. A well known Torino URL is <http://www.radioflash.to>.

Alternative Domains for Cities: Alternate Roots

Some Alternate Roots also discovered the unexploited area of Top Level Domains for cities and regions in the past, with limited success. One active Alternate Root in this area today is provided by the company Unified Root S & M B.V. based in the Netherlands. Their business model is based on offering cities worldwide the opportunity to run their own city TLD with Unified Root. The cities are not supposed to pay for their TLD but for the domains at the second level. Accordingly to Unified Root S & M B.V. executives there are ongoing negotiations with the city governments in Amsterdam, Netherlands and Salzburg, Austria for their respective TLDs (.amsterdam/.salzburg). The technical premises tied to alternate roots however might limit their success - due to a plug-in users need to reach an alternate root domain. Furthermore a privately held company doesn't necessarily meet the requirements which are stated by ICANN and help to ensure the main columns of the internet: stability, security and reliability.

Alternate use of other ccTLDs

Due to their short length of two letters a lot of ccTLDs are used for other purposes than identifying websites of a certain country. Some of the ccTLD registries have made marketing agreements to actively promote a different use. The most successful example seems to be the .tv TLD which is marketed worldwide as television TLD. Today, many TV stations and TV-shows around the globe own and use their .tv domain actively.

Due to the very limited number of short, generic or descriptive domain names available at the gTLD level the ccTLDs opened a new market for businesses, organizations and individuals.

ccTLDs that are used for other purposes:

TLD Used For	ccTLD of
.LA US city of Los Angeles	Laos
.RO German city of Rosenheim	Romania
.BY German Federal State of Bavaria	Belarus
.AG AG=German public companies	Antigua and Barbuda
.TV TV stations and related businesses	Tuvalu
.IT IT companies	Italy
.AM AM Radio-Frequencies	Armenia
.FM FM Radio-Frequencies	Mikronesia
.CC Content & Commerce	Cocos Islands
.WS Website	West-Samoa
.TO Short domains (e.g. go.to, come.to)	Tonga
.SH German Federal State Schleswig-Holstein	St. Helena
.PL German region Pfalz (number plate = PL)	Poland
.BE Swiss city of Bern	Belgium

TLDs for City and regional Communities

Today almost every important city has its own official website, even small towns and villages often have their own representation in the web. In most cases the city website can be reached through a single domain, which is a single address and a single identifier of the regional authority, its institutions and administration. It's the clear intention that only officially approved and politically correct content is available on these city websites. Participation of businesses, organisations and individuals from the respective local community is not allowed or very limited on these domains. The rationale for restrictions are often legal considerations, since the owner of the second level domain is held responsible for all content under the second level. Furthermore the local governments fear that unfriendly, porn and politically controversial content could harm and damage the image of the city's URL and the current city government.

The idea of using third level domains makes sense and would be an easy way to broaden the city's virtual namespace, but there are several reasons why third level domains with a syntax <http://domainname.cityname.tld> are seen rarely. It may be conceivable that institutions and organizations related to the city use third-level-domains like <http://police.cityname.tld>, indeed some cities do so. But it's hard to imagine that the city government would allow free registration of third level domains like <http://sexy.nyc.gov>, <http://i-hate-the-mayor.london.gov.uk> or even more disgusting URLs. Registration restrictions relating domain naming and content as well as limited nameserver access would make the third level domains uninteresting for economy, culture, private households and others.

In contrast, with an own TLD for a city community, companies and organisations being active in that community would create a unique local identity which a third level domain will never be able to. A TLD as identifier opens up the opportunity for everyone in the community to participate, to contribute, to diversify and to network by an own second level domain.

The city community TLDs can also broaden the namespace and create healthy competition to the respective ccTLDs and gTLDs. When searching the major TLD databases (.com, .net, .org,

.info, .biz, .us, .de, .uk) for city names as string an impressive number of domains contain city names or abbreviations can be surveyed:

String	Number of domains containing the string
newyork, new-york, nyc, ny	200,000
berlin	110,000 (thereof 70.000 .de domains)
london	55,000
paris	30,000 (including "Paris Hilton" domains)
chicago	30,000
boston, houston, dallas	20,000 each
travel	200,000 (in comparison)
jobs	180,000 (in comparison)

It is easy to imagine that those strings could be used on the right side of the dot.

In recent years city, regional communities, and private sector initiatives discovered the opportunity to create their own local TLD. In the ICANN 2000 RFP (Request for Proposal) for new TLDs a consortium [applied for the .dubai](#) gTLD for the Dubai Internet City. However, the TLD has not been granted by ICANN. Four years later the puntCAT association [applied](#) in the ICANN 2004 RFP for the .cat sTLD. The TLD for the Catalan language and culture community was granted by ICANN in late 2005, domain registrations already started. Also in the 2004 RFP the sTLD .asia was approved by ICANN, the .eu TLD for the European Union was also approved in 2004.

Some new initiatives for TLDs for the respective communities have become visible during the last years. Among them are:

- .nyc - New York City, USA ([more](#))
- .berlin - Berlin, Germany ([more](#))
- .sco - Scottish Community, UK ([more](#))
- .cym - Welsh Community, UK ([more](#))
- .lac - Latin America ([more](#))

Initiatives of other city and regional communities are known to the author but didn't go public yet.

www.cityname.city (e.g. london.city, berlin.city) as Alternative?

Some thoughts have been made with regard to the possibility of creating a .city Top Level Domain (dotCITY) to serve the demand of cities in new namespace. Despite some advantages of a .city TLD there are several reasons which are not in favour of a .city TLD. First of all, the namespace created by a .city TLD exists only on a third level (e.g. <http://company.cityname.city>) and as we have shown before, third level domains are not as well accepted as second level domains (apart from countries that do not use third level). That limits the potential success. Secondly the string "city" has meaning only to an English speaking community using Latin characters. And thirdly, in a lot of countries, the owner of the second level domains is fully responsible for any content published on the third level as well. Last but not least it should be mentioned that most cities, especially the metropolises, already have their own official city website. Therefore the .city TLD would mainly lead into the creation of additional commercial websites like the <http://www.city.com/.net/.org> etc. Also, they wouldn't intuitively reflect the search behaviour for local content like cinema programs (cinema.new-york-city.city), restaurants (restaurant.london.city) or craftsman (plumber.paris.city).

Conclusions

Coming back to the first paragraph of this article it is stated that major city communities standing in today's networked world could be seen at a comparable level to countries. There are more than 90 countries (one third of all countries worldwide) with less than 1 million

inhabitants having their own TLD. In comparison there are more than 380 city communities with over 1 million inhabitants which cannot leverage the advantages of their own TLD. In this article several city and regional communities are mentioned which are trying to overcome this obstacle on various ways.

There are many reasons why city and regional communities want to have their own TLD:

- The namespace of short, memorable and suitable domains available at the second level at gTLDs and several ccTLDs has become tight
- A .city TLD (e.G. <http://www.london.city>) is not an appropriate concept to broaden the cities namespace and create added value
- For major cities all <http://www.cityname.gTLD> domains are already used, most of them for commercial purposes
- Often the domain <http://www.city.ccTLD> can't be opened up for private and industry content due to legal or political issues
- .gov is a restricted TLD and available for cities in the USA only
- Third level domains like <http://www.domain.gov.ccTLD> or <http://www.domain.com.ccTLD> are not an optimal way to meet the existing demand of businesses, organisations and individuals. They are not learned and not easy to remember (unless the country regularly uses third levels like .uk).

To overcome these issues, TLDs for cities could become a solution:

- With own TLDs official websites of cities with the same name can co-exist on the internet using different domains on a the first come, first served principle.
- There's a clear demand for Top level domains as local identifiers by city and regional communities and initiatives
- City governments, businesses and individuals do already use gTLDs and alternatively use ccTLDs for the purpose of local identification
- City and regional communities and initiatives are actively searching for ways to create their own local identity on the internet, for instance by application for their TLD at ICANN or by Alternative Roots

Comments

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