DotCym

Domain names are a significant part of the pragmatics of the world-wide-web in particular and the Internet more widely. They form an important element of internet governance and act as supporting infrastructure for critical aspects of the global information society such as electronic business and electronic government. In this case study, first, we provide a description of the context for domain names on the Internet and the World Wide Web (Web) and particularly focus upon so-called top-level domain names or TLDs. The Internet Corporation for Assigned Names and Numbers (ICANN) control the assignment of domain names internationally. Second, we help ground issues relating to the promotion, assignment, administration and use of TLDs by describing an interesting case in progress from a distinctive geographical region of the UK: Wales. The dotCYM campaign is a not-for-profit pressure group which for a number of years has attempted to promote a distinct Internet domain for the Welsh linguistic and cultural community. The campaign believes that the Welsh language and culture connotes a community that should be identified and enhanced by having its own Top Level Domain on the Internet.

International control of domain names

Domain names arose as an attempt to provide meaningful conventions enabling connections to be made between computer systems across the Internet. Any domain name is typically made up of three or more parts referred to as domain levels. Levels therefore provide structure to the domain name. In a particular URL, domain levels read from right to left: sub-domain, 2nd level domain, top-level domain. Top-level domains (TLDs),

consist of either so-called generic top-level domain names (such as .com) referred to as gTLDs, or country codes (such as .uk), referred to as ccTLDs. gTLDs are also referred to as 1st level domain names. 2nd level domains serve to further refine the top-level domain name by typically suggesting the type of provider. For instance, .ac indicates an academic institution based in the UK. Sub-domains refer to those domains below the 2nd level and are typically used to refer to a specific content provider. In our example, cardiff signifies the Web-site of Cardiff University.

Internet Protocol addresses are mapped to domain names by domain name servers. These are computer systems in the inter-network that perform such transformation. For such domain servers to work effectively standardisation is needed in domain names. ICANN have responsibility for a number of naming conventions including gTLDs such as .com and .org and ccTLDs such as .uk and .fr. They also have responsibility for sponsored top-level domain names (sTLDs) such as .coop and .museum and un-sponsored TLDs such as .biz.

IANA, the precursor organisation to ICANN, originally created seven Generic Top Level Domains (gTLDs), consisting of strings of three letters taken from the following list: .com. (signifying some form of commercial organisation), .org (signifying any type of organisation but typically used to signify public sector or voluntary sector organisations), .gov (initially used to signify government establishments generally but now restricted to refer to US government establishments), .edu (used generally to signify an educational institution internationally), .mil (initially used to signify

military establishments generally but now restricted to refer to US Armed Forces establishments), .int. (initially conceived for international entities), .net (initially used to signify 'networks' and therefore a generic free usage domain).

However, in 'an uncharacteristic lapse of consistency on the part of early internet designers' IANA established a parallel list of ccTLDs. Part of the reason ccTLDS were introduced and began to be used was because gTLDs gradually began to be perceived internationally as US TLDs. For instance, the original intention was that any educational institution in the World could register itself under the .edu gTLD. In practice, it turned out that, with a few exceptions, only US-based institutions registered under .edu.

Country Code Top Level Domains (ccTLDs) consist of strings of two letters, for example .uk, .fr, .es. ICANN clearly states that it does not decide on the status of a country. The verification of countries is therefore delegated to the International Standards Organisation (ISO) and more specifically to inclusion in its ISO-3166 list of country codes. However, there are considerable anomalies in the ccTLD naming conventions arising both from inconsistencies in the ISO list and from the presence of early naming agreements established before the creation of ICANN. The ISO list is derived primarily from a list of country names published by the United Nations, which also assigns unique codes to a number of inhabited overseas territories. Thus, in 2002 there were 189 countries which had seats in the UN General Assembly but 239 'countries on the ISO 3166-1 list. Some countries have also established country codes that conflict with the ISO 3166-1 list. The .uk country code is a notable example in that the specified country code for Britain in the ISO 3166-1 list is .gb. Some 'regions' within this country also have codes established in ISO

3166-1 list. Examples here are .gg (Guernsey), .im (Isle of Man) and .je (Jersey). The current ICANN namespace contains 255 registered ccTLDs.

Therefore, over time the domain system has been gradually extended, sometimes in an apparent piecemeal manner. For instance, the current ICANN namespace contains 21 registered gTLDs all of which are open for use as supporting infrastructure for the Internet. Adding to its complexity, since 2000 a number of sponsored top-level domain names (sTLDs) have been created, typically backed by some defined community. The named sponsor of an sTLD is delegated the responsibility of administering the domain in the sense that it decides if a person or legal entity can register for use of the domain. Such sponsored domain names include, .aero (signifying the aeronautical industry), .coop signifying cooperative organisations, .museum (signifying museums), and .cat (signifying the Catalan language and cultural community, discussed below).

Also since 2000 a number of un-sponsored domain names have been created. These are generic top-level domain names, not backed by a community but which operate under the policies established by the global Internet community, directly through ICANN. Such un-sponsored domain names include: .biz. (signifying businesses), .info (signifying information resources - an extension of .net), .pro (signifying independent professionals - lawyers, doctors, etc.), .name (signifying individuals or legal entities that wish to register their names as domains).

Applications for the approval of a new TLD are made to ICANN using a defined process. Decision-making on applications within ICANN is conducted via a series of meetings held by ICANN's board of governors, and within a variety of committees such as the GNSO

(Generic Names Supporting Organisation), the ALAC (At-Large Advisory Committee), the GAC (Governmental Advisory Committee) and other so-called constituencies. Representation from various interest groups is included at committee level. After approving a new TLD domain, ICANN delegates the administration of issuing it to IANA. Domain names frequently launch with a defined 'sunrise period' – this refers to the period of time at the launch of a new Top Level Domain during which owners of trademarks may register a domain name containing the owned mark.

DotCYM campaign

The dotCYM campaign is a not-for-profit organisation which has been seeking for a number of years to establish a TLD for the Welsh linguistic and cultural community. It believes that the Welsh language and culture is a community that should be identified and would be enhanced by having its own TLD on the Internet.

However, in terms of the international process described in the previous section, the options available to establish a Welsh Identity on the Internet through a TLD are limited. In terms of assigning a two-letter country code for Wales, ISO maintains that it cannot include Wales in the ISO 3166-1 list as Wales does not meet the criteria established by the UN for assuming the status of an independent country. However, given that regions such as Guernsey (.gg) are included in the list as well as territorial possessions such as the Faroe Islands (.fo) and the Falkland Islands (.fk) it was suggested that a campaign sponsored by the Welsh Assembly Government might increase the chances of a further exception to the rule being made in favour of Wales. However, in the case of this becoming a possibility the two-letter string .cy has already been taken by Cyprus. Available alternatives include .wa, .wl and .cw.

In terms of assigning a three-letter sponsored TLD for Wales, the dotCYM campaign were initially promoting the potential use of .cym because it is the official ISO 639-2 alpha-3 code and the latest ISO 639-3 code for the Welsh language. The campaign was hence promoting the use of the .cym TLD as signifying a community (Welsh language, culture and interests) rather than a country. They believed that this sidestepped the problem ICANN has with including Wales as a country and draws on precedence established by the .cat TLD. In 2010 however, ICANN ruled that the TLD .cym was to be reserved for use by the Cayman Islands, even though they already have use of .ky. The DOTCYM campaign is therefore currently canvassing for opinion on a number of other TLDs such as .cymru (cymru being the Welsh for Wales), .cwl (Cymru Wales) or .Wales (dotCYM, 2010).

The campaign maintains that there would be a number of consequent benefits from having a TLD for the Welsh community. The prime focus is particularly one of promoting and supporting the Welsh language and it is claimed that the presence of an sTLD will serve to unite Welsh-speaking communities within Wales. It is also seen as a means of uniting other historic Welsh communities in other parts of the British Isles, as well as in North and South America, and Australia. The presence of having a domain name is seen as playing a pivotal role in promoting further the use of the Welsh language on the World Wide Web as a modern method of communication. However, in their campaign literature dotCYM also promote a larger vision for the domain name. They see it as enabling the creation of an online community of people, organisations and other stakeholders of all languages, ethnicity and diversity that have an interest in Wales and all things Welsh.

The dotCYM campaign took its initial inspiration from a successful campaign which

has already established .cat as a sponsored top-level domain name through ICANN. The .cat domain was approved in September 2005 to serve the needs of the Catalan Linguistic and Cultural Community on the Internet. Catalan is an official language in Spain, and is widely spoken by an estimated 10 million first and second language speakers worldwide in many autonomous Spanish regions. The Charter for use of the .cat TLD states that 'the .cat TLD will be established to serve the needs of the Catalan Linguistic and Cultural Community on the Internet (the "Community"). The definition of the Catalan Linguistic and Cultural Community refers 'to those individuals, groups, businesses, organisations, entities or initiatives, however constituted, eligible to register in the .cat TLD according to this Agreement and the .cat Charter. The Community includes those who use the Catalan language for their online communications, and/or promote the different aspects of Catalan culture online, and/or want to specifically address their online communications to this Community'.

PuntCAT comprised a private Catalonia foundation consisting of a coalition of around 98 organisations supporting the Catalonian language and culture. The registry operator selected the CORE (Internet Council of Registrars), to provide registry services. The establishment of the .cat TLD is seen as novel for ICANN, as the majority of countries and geographical territories all have domain names consisting of two letters and not three. As we have seen above, domain names consisting of three letters have previously been reserved for non-territorial domains which are largely under professional or national organisations like .com or .biz.

The Catalan government soon after assignment expressed its pleasure with the decision and expected that as a result of this decision many applications will be made to switch existing Websites from .es (Spain) to .cat (Catalonia). The Catalonian Government itself announced that it would register its site under this new domain. During the sunrise period, there were around 11,400 .cat domain name applications, 9,300 of which were granted. Within 10 months, 19,000 domain names were registered under the sTLD, referencing 3.5 million Web pages.

As a sTLD, the .cym domain name must clearly signify a community. If successful, the sponsor is delegated the responsibility by ICANN of administering the domain in the sense that it decides if a person or legal entity can register for use of the domain. Most of the held benefits for the .cym domain relate to issues of signification. This is because a domain name is only useful in terms of what it signifies. To help unpack this it is useful to consider domain names in terms of the meaning triangle. Designation defines the symbol being used. In the case considered here this is the proposed string .cym. Intension refers to the concept for which the symbol is being taken to stand for. In this case, the campaign is proposing .cym to stand for some form of 'community'. Extension refers to instances of the concept (intension) in question. In this case, the domain name will be used to stand for a 'community' which in practice will consist of a body of organisations providing Web-based content addressed using the .cym domain.

In 2011 ICANN decided to end most restrictions on the names of generic top-level domains. This means that organisations are now able to bid for essentially any arbitrary top level Internet domain name and pay an annual fee for its registration. As a result of this the DOTCYM campaign has changed tack and is now bidding for two new TLDs - .cymru and .wales. Dotcymru is intended for use by web-sites based in Wales which have primarily Welsh language content while

DotWales is intended for use by web-sites based in Wales, with primarily English language content and designed for use by international users.

Points for reflection

- How important are domain names to the competitive performance of particular nations and regions?
- How important to an organisation's srtategy is choosing and registering a domain name?
- What communities does the .cym or .cymru domain seek to signify, as compared to the .wales domain?
- How important is the registration of domain names to modern-day companies and other organisations?
- How important are domain names to nation states?