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Antitrust Analysis of dominance in the Internet Governance

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INTRODUCTION

The Internet has often been perceived as a decentralised, anarchical network of networks, with no central point of failure, that is situated somewhere outside the reach of the law and of national governments, which on their part, suffer from the limit of being inherently confined within their own territory.

The development of the last decade has, however, shown that activities and problems of the "real world" reproduced themselves in a new fashion also in the "virtual" one: instant and cheap communication, electronic commerce, easy and immediate access to enormous amount of information etc. were allowed by the new medium as well as new and old style frauds, infringements of Intellectual Property Rights, defamation and other illegal activities. It was then that issues of "governance" of the Internet eventually arose.

The use of the word "governance" in connection with "Internet", evocating traditional forms of governmental intrusion and control, seemed to many like a blasphemy. The ideal of a private sector, bottom-up, self-regulated, self-managed and consensus-based Internet always permeated – sometimes like a dogma – the debate on Internet-related issues (in a word: Government, hands off the Internet).

In fact, these claims already imply the choice of a "governance" system, just that it is a system where participation of "traditional" political institutions is meant to be excluded. A system of governance may involve the allocation of property rights and obligations, the enforcement of such rights, the procedures through which decisions that affect the public are taken and the means for resolving disputes. In this sense, Internet governance is a rather broad concept that covers the regulation of access to the infrastructure, the control of the content, the discipline of the behaviour in the market, the protection of national security and of minors and so on. It seems, thus rather unrealistic to expect that governments and law-makers would simply ignore the "virtual" world and all that is going on therein and accept that the Internet is "unregulable". As a matter of fact, State actors eventually stepped in, in different ways and with different success, for protection of Intellectual Property, of minors, disciplining business online and so on.

There is however an aspect of the Internet Governance where the resistance to governments' intrusion was possibly even greater, even though it

goes at the heart of the Internet itself, since it affects the discipline of the access to the network of networks. Existence on the Internet is assured through special identifiers: numbers, like in the telephone network, and names, like in human communities. Those who do not have such identifiers cannot see the network and cannot be seen, cannot send or receive any Internet communication, cannot buy or sell on the Internet, cannot infringe rights or violate laws.

The system for assigning those names and numbers (IP Addresses and Domain Name System, described in Chapter I) is therefore crucial for the Internet and those who control it, control in fact the Internet itself: the controller can indeed discipline behaviour and regulate content through the threat of exclusion from the network; the controller can eventually even decide to "shut down" the Internet *tout court*. In the early days of the Internet, when it was just a scientific, academic network, this was not felt as a problematic feature. However, as the Internet stands today, with more and more activities (including research, broadcasting, voting, and even surgery) relying on online communication, there is a considerable power embedded in the operation of the system of Internet names and numbers. Yet the struggle for private bottom-up coordination was in this matter particularly evident. Perhaps the business' fears of being suffocated by regulation, perhaps the Governments' fears of the whole system being controlled by only one State (the US), brought about the creation of a peculiar system where access to Internet identifiers is supplied by a number of private companies and-not-for profit entities all over the world, belonging to the same network, at the top of which stands a private corporation called ICANN and headquartered in the USA.

This system of Governance, that originally foresees the participation of public actors in a mere consultative function, contains an inherent tension between private commercial interests and public and general interests. A private business-oriented approach to the management of Internet names and numbers has been "polluted" with many public policy issues, without a suitable form of legitimacy or accountability. In fact, such a form of private sector self-governance where, moreover, not all stakeholders are properly represented, is not well suited for addressing issues of public policy affecting the general public: stakeholders are many and diversified, are spread all over the world and through different jurisdictions, often have conflicting interests and the decisions of some groups may negatively affect others.

The European Commission stated already in 2000 that ICANN is "taking decisions of a kind that governments would, in other contexts, expect to take themselves in the framework of international organisations".[1] It is not surprising then that lately the World Summit on Information Society requested the United Nations Secretary-General to establish a Working Group to discuss at global level the elaboration of a new system of Internet Governance (WGIG), which is expected to take a final decision in November 2005.[2]

However, as a matter of fact and despite public policy concerns about "governance", the allocation of Internet domain names is currently run as an economic activity that has given rise to a lively market all over the world. Chapter II of this work will focus on the characteristics of this economic activity and of the domain names industry as a whole.

Yet, something seems to be going wrong in this industry, even considering only the business part of the story: Internet users have a continuous impression that there are not so many domain names available; many wonder where the promised new domain names "extensions" or, *recte*, Top Level Domains have gone; new and existing operators wish to offer new services and are told that they cannot or should not.

There are different ways to look into the problems of the domain names industry. Being an economic activity, an obvious rout to explore seemd to be the antitrust one: economic activities in most legal systems are subject to a number of constraints; the smooth functioning of the market is meant to be assured by the set of rules collectively denominated antitrust (or competition) law. These rules, present in national system and also in the European Community (EC) framework, address agreements between enterprises and unilateral conduct liable of hampering the proper functioning of the market. When such behaviour affects cross-border trade, the competence lies rather at the EC level.

The structure of some segments of the markets for domain names presents itself already altered by the presence of big dominant players, partly because of historical reasons, partly because of the peculiar characteristics of the activities. In this kind of situations, a particular analysis, whose

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[1] Communication from the Commission to the Council and the European Parliament of 7.4.2000, COM(2000) 202: "The organisation and Management of the Internet. International and European Policy Issues 1998-2000".

[2] http://www.itu.int/wsis/wgig/index.html

characteristics in the EC setting are briefly described in Chapter III, is mandated by competition rules, in order to find out whether the functioning of the market is distorted by the behaviour of the dominant operator. Such analysis is conducted in Chapter IV, distinctively for each segment of the market(s) for domain names. When it could be useful, a presentation will be made of the way the same kind of problems have been approached under American antitrust law.

The fact that the main legal framework remains, however, the EC one triggered another set of reflections about what the European Union is actually doing in domain names and Internet Governance matters. Chapter V is then aimed at sketching the European involvement in domain names and Internet Governance affairs and the peculiar competition issues raised with respect to some national country-code domain names.

The approach just described to Internet governance issues, brings about some difficulties; the first is, at the outset, the actual understanding of the functioning of the technologies involved, what is technically impossible and what could be done by just changing the technical setting. The continuous evolution of both the technical and the regulatory scenario made and makes it a challenging exercise, that of interpreting such reality. Other difficulties lie in the complex public policy-private interests relationship and international nature of the management of the Domain Name System. A further intricacy stems from the fact that both economic and legal analyses are required to carry out the type of study contemplated above. Economics and law employ different methodologies to tackle problems and seem at instances to speak different languages. However, their combination can be very useful for a better understanding of the problems and for a better application of the law. Even more so when the law in question is competition law. Therefore, the present work tries to combine the various approaches and to face the challenge of unbundling the different complexities highlighted, in order to provide a meaningful way of explaining and tackling some of the problems of the Internet Governance.[3]

[3] I am grateful to my professors at the College of Europe of Bruges, Jacques Pelkmans, Jacques Bourgeois and Pierre Larouche, as well as professor Martijn Van Empel and Mgr. Martin Priborsky for their the support and their useful remarks.

I. THE DOMAIN NAME SYSTEM

Like the Internet itself, the Domain Name System (DNS) functions essentially as a network. But unlike the Internet, which is dispersed, the DNS is hierarchical.

I.1 The domain name system, how it works

"The Domain Name System (DNS) helps users to find their way around the Internet".[4] In other words, the DNS is a method to *locate* Internet resources (i.e. computers hosting websites), by organizing them in a de-centralized and hierarchical way.

The rationale of the DNS rests on the fact that every computer on the Internet needs a univocal identifier allowing it to get connected with all the others. Such identifier is but a number, more precisely a sequence of four numbers[5] (called IP addresses) that look as weird to "normal" Internet users as 190.51.225.1. Thus, in order to make it easier to find the resource responding to 190.51.225.1, a mnemonic alphanumeric "translation" was introduced: domain names.[6]

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[4] From http://www.internic.net/faqs/authoritative-dns.html last visited on Sept. 27, 2003.

[5] Pursuant to the standard protocol currently in place, namely the so-called IPv4. However, the allocation of numbers under this system was not very efficient and thus we are currently facing a kind of scarcity. In order to solve this problem, a new protocol is being experimented, the so-called IPv6, that will allow for a higher number of identifiers and more advanced functions. It is not yet known when this protocol will replace the old one. At the time of writing proposals are being "introduced" and "discussed" within the ICANN structure. See http://www.icann.org/announcements/announcement-16sep04-2.htm last visited on 21 October 2004. Also the European Commission has intervened to stimulate the process, repeatedly stressing the importance of the migration towards the IPv6 standard; see for instance the Communication from the Commission to the Council and the European Parliament "Next generation Internet – priorities for action in migrating to the new Internet protocol IPv6", of 21.2.2002, COM(2002) 96 final.

[6] To be precise, not every computer on the Internet has its own IP address. Indeed, in some cases there are some fixed IP addresses, so-called "static", attributed to the same entity for longer periods of time, while in many other cases, IP addresses are called "dynamic" because they are subject to a sort of rotation among different users. This is happening especially when it comes to private users connected through their ISP via a dial-up connection: the ISPs attributes each IP address to a certain customer, as long as she needs it and then it can be given to another one.

Domain names, that look much better to humans[7] (amazon.com, uniroma1.it, wto.org, repubblica.it), are to be read from right to left, so that in the previous examples .it, .com, .org are the so called Top-level Domains (TLDs – those at the top of the hierarchy), "amazon", "repubblica", "wto" are Second-level domain (SLDs) and it is possible to have also third-level domain (such as blog.repubblica.it), fourth-level domains and so on.

The only requirement that is technically mandatory is that the correspondence names-numbers be univocal: there cannot be two perfectly identical domain names. There can be two identical SLDs only under two different TLDs (it is perfectly possible to have www.pizza.com[8] and www.pizza.museum[9]), otherwise there must be a difference in the way the SLD is spelt (the way two Universities of Rome can have a similar identifier is to use www.uniroma1.it as different from www.uniroma2.it).

However, the translation numbers-names referred to above, does not stem from some pre-determined mathematical algorithm, but is the result of an arbitrary link operated between the domain name and the IP address, thus implying the necessity of a database (i.e. a file) univocally relating each address with the corresponding domain name.

It was for the purpose of making this database file manageable, that the first engineers of the DNS thought of a distributed and hierarchical structure of databases: at the top of the hierarchy, the so-called root file only links each top-level domain with the IP address of their own registry; this one, on its part, contains the indication of the IP of the registrant of every second-level domain under that TLD (for example the owner of "amazon" in the .com database or the one of "repubblica" in the .it registry), whose database will, in turn, contain the indication of the assignee of any third-level domain (like blog.repubblica.it) and so forth.

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[7] This is not a technically mandated feature of domain names: from a technical point of view, qwrt.seedsac.vukotih is as valid domain name as www.europa.eu.int. However the main reason to have domain names in the first place was that they had some semantic value and for this purpose the former domain name makes no sense.

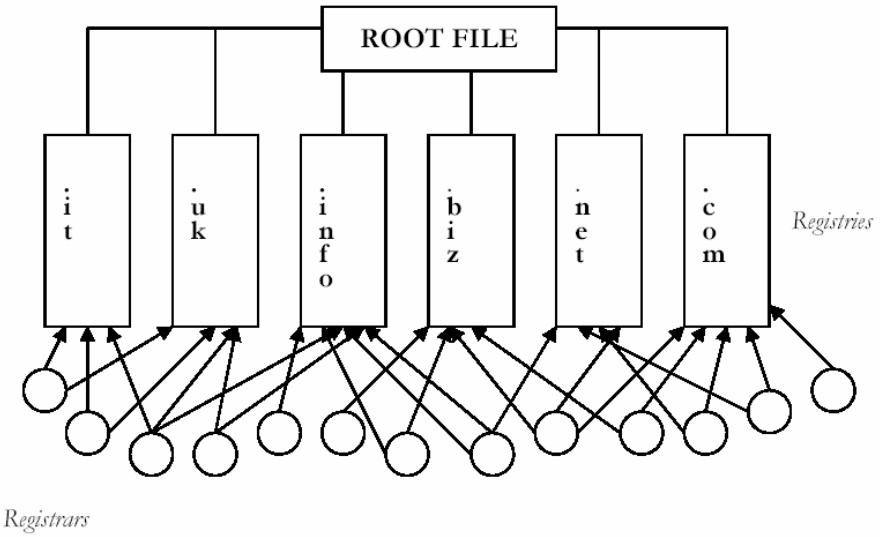
[8] Interestingly enough, pizza.com that according to the common theory of attractiveness of domain names should rank quite high, is instead registered just for resale purposes, and it is still for sale.

[9] There is no museum of pizza currently registered under the new sponsored TLD for museums. On new and sponsored TLDs, see later in this chapter.

Moreover, to make sure that the DNS would not inadvertently collapse, the root file is replicated by thirteen root servers, spread around the world, identified by letters from A to M, where A is the authoritative or legacy root, whilst the others simply reproduce the changes introduced into the A-root database. Each of the thirteen copies receives queries and responds communicating the corresponding IP address. The reason to have several copies of the root is to assure that the whole system will keep working even in case one or some of the root servers crashed.

We can statically depict the hierarchy underlying this system, having at the top the root file, then the registries of the individual TLDs. It is in the latter that some entities called "registrars" perform the actual registration on behest of their customers – those wishing to run a website (Fig. 1).[10]

Figure 1 – The Hierarchy of the Domain Name System (DNS)



[10] Originally, the registration process was somewhat simplified, since only one entity was in charge of managing the registries and granting registrations therein to the applicants. This initial system was changed because of the competition concerns it raised. See next section in this chapter.

From a dynamic perspective, the operation of finding out of this hierarchy, which IP number corresponds to the domain name typed in the browser is called "to resolve a domain name". When the user types in her browser a domain name, her computer will send to her access provider[11] the request of which IP address corresponds to the domain name typed in; if the provider has the information, the computer will immediately be directed towards the correct IP address and thus to the website sought. If the provider does not have such information, it will enquire all the way up the DNS hierarchy: asking the root for the IP number of the registry of the TLD in question, then asking this registry for the IP of the assignee of the SLD and so on, until the correct IP address is found and the website sought can be displayed on the screen of our user (Figure 2).

[11] The company that provides users with access to the Internet.

RESOLVING A DOMAIN NAME

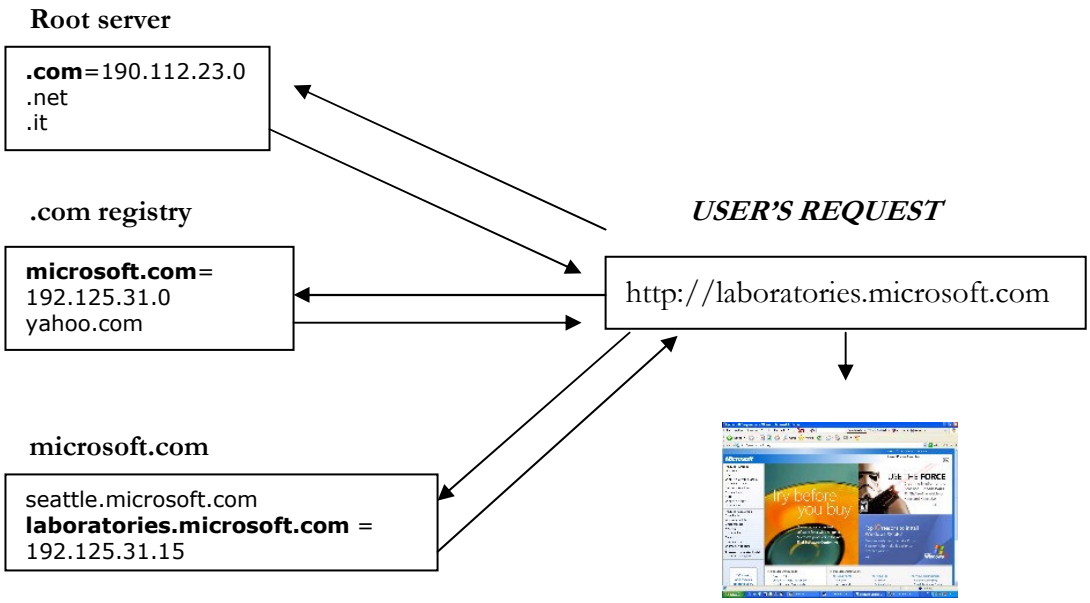


Figure 2 – The chain of queries/answers for "resolving" a domain name into an IP address and thus accessing the website sought

The root-file currently contains 257 entries: 14 correspond to the so-called generic TLDs (gTLDs) and 243 to the so-called country code TLDs or ccTLDs.[12] The idea behind this is that a two-letter TLD would identify resources from a given country, while the generic three-four letter TLDs would be used to characterise the "sector" to which the resource belongs.[13]

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[12] Leaving out the .arpa TLD, not open to the public and used exclusively for technical infrastructure purposes, see http://www.iana.org/arpa-dom/ last visited on Nov. 18, 2003.

[13] Explanations are to be found in the RFC 1591 of March 1994, available at http://www.isi.edu/in-notes/rfc1591.txt, last visited on 8.9.2004. RFCs (Request For Comments) are, traditionally, the way policies for the Internet were introduced: following the principle of reaching consensus across the Internet community, the proposed texts were circulated in order to be commented before being adopted.

As for ccTLDs, it was decided to base the choice of the two letters identifying a country on the country-codes from ISO 3166[14] and to leave the decisions concerning the organisation of each registry to the national operator. This was appointed, in the early days of the Internet, upon simple request coming from the concerned country and resulted in the attribution of the function to universities, agencies or consortia around the world. This approach was to eventually change as from the late '90s, when several new ccTLDs have been created and some existing ccTLDs ended up being re-delegated to new entities.

As for the gTLDs, originally there were only seven: .com, .net, .org, .int, .edu, .gov and .mil. The first five, according to the RFC 1591[15] were "international in nature" while the last two were intended for US governmental and military institution respectively. In the original intentions of the inventors and early managers of the DNS, the .com was for "commercial entities, that is companies",[16] .edu for "educational institutions", .net for "computers of the network providers", .int for "organizations established by international treaties"[17] and .org for "organizations that didn't fit anywhere else". As all of us Internet users came to realise, however, the .org and the .net story are somehow different today, as they are considered open gTLDs.

To the original seven gTLDs just mentioned, seven more have been added in November 2000: .biz (for business), .name (for physical persons), .pro (for liberal professions), .info (unrestricted), .coop (for cooperatives), .aero ("to serve the global aviation community")[18] and .museum (self explanatory). Of these, .biz, .info, .name, .pro are called "unsponsored" while .coop, .aero and .museum are sponsored gTLDs. The difference between these two groups lies

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[14] See RFC 1591 sub para. 2 and 4. For a presentation of the main issues connected to such choice, see A. Papa Malatesta's contribution in A. Papa Malatesta, F. Chirico, K. Stagi INTERNET GOVERNANCE, Luiss University Press 2004.

[15] See above at footnote 13.

[16] All quotations are taken from the mentioned RFC 1591, if not indicated otherwise.

[17] The European Union's website is currently registered under .int, http://europa.eu.int where ".int" is the TLD, "eu" is the Second-Level Domain and "europa" is the Third-Level Domain. However, the EU since a number of years is trying to obtain a TLD directly referable to itself, the long awaited ".eu". On this issue, see Chapter V.

[18] See the .aero Charter, available at http://www.icann.org/tlds/agreements/aero/sponsorship-agmt-att1-20nov01.htm, last visited on 8.9.2004.

in the fact that a sponsored gTLD "is a specialized TLD that has a sponsor representing the narrower community that is most affected by the TLD."[19] This means that a sponsored TLD has only a limited and restricted reach, most of the times predetermined.

Whilst the addition of new ccTLDs has usually not required any test or proof of concept,[20] as long as the country two-letter code was indicated in the ISO standard, the introduction of the new gTLDs was conceived as a first attempt which then needed be studied and evaluated. At the time of writing, and after a sometimes slow start, all the seven new gTLDs have come into operation, although with different success, and most of them have completed their proof of concept. The Report on the "Evaluation of the New gTLDs: Policy and Legal Issues" has been released not so long ago.[21] The further introduction of generic TLD is also subject to lengthy discussion and seems that will likely result in the creation of only some sponsored TLDs.[22]

I.2 Historical overview and relationship among the players

In order to have a better understanding of the current system of governance of the DNS and of the Internet, it is useful to recall some of the evolutionary steps that have led to the point where we are now.[23]

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[19] See http://www.icann.org/tlds/, last visited on 8.9.2004. In the case of sponsored TLDs, the sponsor carries out delegated policy-formulation responsibilities over many matters concerning the TLD.

[20] With the remarkable exception of the forthcoming .eu TLD, that is however, not exactly a ccTLD. See Chapter V.

[21] See "ICANN Publishes Comprehensive Evaluation of the Introduction of the .aero, .biz, .coop, .info, .museum, .name and .pro gTLDs – 31 August 2004", at http://www.icann.org/announcements/announcement-31aug04.htm last visited on 21 October 2004.

[22] See for instance the new gTLD Strategy Implementation published on ICANN's website at http://www.icann.org/topics/gtld-strategy-area.html last visited on 6 December 2004 and the press release of 27 October 2004 available at http://www.icann.org/announcements/announcement-27oct04.htm.

[23] My intention here is just to give a few insights that can help understanding the current problems and not to give the full historical picture. For this, see the thorough reconstruction in M. Mueller, Ruling the Root. Internet Governance and the Taming of Cyberspace, MIT Press 2002.

The system described above, developed in the USA first by a military agency[24] and then by the National Science Foundation (NSF), had been successfully managed during some decades by a bunch of scientists, collectively known as IANA (Internet Assigned Numbers Authority).[25] Domain names to identify the computers connected to this early Internet were attributed on a pure *first come, first served* basis.

This system that relied on consensus policies and on the authority of the people managing it, was unfortunately unsuited for the Internet of the 1990s, with growing commercial interests within and outside the USA. Domain names, indeed, had acquired significant economic value for companies that had realised the profit-making potential of the new Internet industry. Facts are well known: the .com had become a must-have for e-companies as well as for "traditional" firms starting to operate through the Internet; shortage of "good" domain names[26] had become relevant and the practice of cybersquatting had given rise to disputes as domain names could create confusion with existing trademarks; while case and statutory law on the subject started developing,[27] trademark holders were gaining more and more attention to their rights at legislative, judiciary and public opinion levels.

Apart from the US, also European governments had started to be very interested in domain name matters and in the Internet governance in general: in 1997, the French government commissioned a study into the legal issues raised by the development of the Internet;[28] in Italy, the government tried to enact an urgency decree, then converted into a normal bill, the contested "Passigli bill",[29] then replaced by different proposals, including the creation of a foundation to supervise the Italian Internet governance;[30] discussions were

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[24] ARPA, within the Defense Department of the US.

[25] IANA pages are still available on the Internet at http://www.iana.org.

[26] Meaningful words, memorable names or even domain names corresponding to own trademarks/names but already been (legally) taken by somebody else.

[27] Apart from the numerous trials taking place in several countries, also legislation was enacted in order to discipline the possible conflicts, such as the US Anticybersquatting Consumer Protection Act (ACPA) of November 1999.

[28] French Report on Domain Names.

[29] Available, *inter alia* at http://www.interlex.it/nomiadom/testo.htm last visited on 6 December 2004.

[30] See A. MAIETTA, "La fondazione Meucci: un primo passo verso la «istituzionalizzazione» di Internet", in *Dir. Inf.* 2003, p.563

carried on within the framework of the European Union,[31] the Council of Europe and the OECD.[32]

The situation was further complicated by the fact that the actual registration of domain names to end-users had been conferred by means of a so-called "Cooperative Agreement" to a private contractor of the US government, namely Network Solution Inc. (NSI), an American company headquartered in Delaware. This company was since performing the task of managing the registry for the .com, .org and .net TLDs and was maintaining the authoritative A-root.[33] After it was authorised to charge for each registration, its business became one of the most profitable of the so-called new-economy and was eventually acquired by Verisign, a dominant company in the field of Internet security and certifications, for 21 billion US$[34] in 2000.

The cooperative agreement had granted a *de facto* monopoly to NSI, thus raising substantial concerns among customers, potential competitors and sovereign governments. In fact, a number of lawsuits was started against this company.[35]

In this complex and rapidly evolving environment, the conviction rapidly spread across the global Internet community that a reform was necessary towards a higher degree of "institutionalisation" and formalisation, while, at the same time, increasing competition and supply of domain names, in particular through adding new gTLDs to the root.

The first proposals were oriented to the increase of the available gTLDs through registries' competition[36] or to the attribution of the management of the DNS to an international body, in a similar way as the ITU (International Telecommunication Union) of the UN, that would offer the necessary expertise and be non US-centric. These proposal, however, run into fierce opposition especially from within the US, probably both for the loss of

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[31] See below in Chapter V.

[32] See OECD paper "Internet Domain Names: Allocation Policies", OCDE/GD(97)207.

[33] The copy of the root server that is mirrored by the other 12. See above, on page 7.

[34] http://money.cnn.com/2000/03/07/deals/verisign/ last visited on 4 October 2004.

[35] On this issues, see below for more details at page 61 *et seq*.

[36] The hypothesis was that of adding up to 150 new gTLDs to the root.

US control on the resource and for the fears of excessive governmental control over the management of the DNS if a UN-style governance was to be adopted.

The prevailing view at that time was that the new system should be worked out while clearly having in mind the protection of private stakeholders and should preferably be left to the private sector.

With the view of privatising the DNS, in 1998 the US Department of Commerce (DoC) eventually issued first a Green and, after a consultation period,[37] a White Paper[38] on the management of the DNS, within the Clinton Administration's *Framework for Global Electronic Commerce*. In this document, the DoC envisaged the creation of a new private corporation, based in the US but with international Directors, that should take care of the allocation of the IP numbers to the regional administrators, oversee the operation of the authoritative root server, oversee the policies for the introduction of new TLDs.

As it has been effectively emphasised,[39] the White Paper, differently from the previous proposals, was considered a satisfactory compromise by the main stakeholders participating to the discussion: US Government, EU and foreign governments, trademark holders and most of the technical community.

Thus, in 1998 the Internet Corporation for Assigned Names and Numbers (or ICANN) was created under the laws of California, as a not-for profit entity.[40] The DoC recognised it as the new corporation it referred to in the White Paper and entered into an agreement, a Memorandum of Understanding (MoU).[41] The mission of the new corporation was "to coordinate, at the overall level, the global Internet's systems of unique

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[37] And a number of severe critiques, see M. Muller, Ruling the Root, cit above at footnote 23, at pages 163 *et seq*.

[38] UNITED STATES DEPARTMENT OF COMMERCE "Management of Internet Names and Addresses", Docket Number: 980212036-8146-02, available at www.ntia.doc.gov/ntiahome/domainname/6_5_98dns.htm last visited on 30 September 2004.

[39] See M. Mueller, Ruling the Root, cit. above at footnote 23.

[40] The bylaws of the new corporation, as amended over time, are available at http://www.icann.org/general/bylaws.htm, last visited on 3 October 2004. The archive of the previous bylaws is at http://www.icann.org/general/corporate.html, last visited on 4 October 2004.

[41] The MoU and all its subsequent amendments are available on this page: http://www.icann.org/general/agreements.htm, last visited on 3 October 2004.

identifiers, and in particular to ensure the stable and secure operation of the Internet's unique identifier systems."[42]

The principles that would guide ICANN's action were: stability of the Internet and of the DNS; competition in order to lower costs and enhance innovation; private bottom-up coordination to meet the changing needs of Internet stakeholders; representation in order to reflect the global and functional diversity of Internet users.[43] The first tasks to be accomplished were the set-up of a system for dispute resolution able to effectively protect Intellectual property right and in particular trademark rights; the introduction of a competitive registration environment and the addition of new gTLDs, after the development of adequate policies.

As for the protection of trademarks, a Uniform Dispute Resolution Procedure (UDRP) was rather rapidly developed with the involvement of the World Intellectual Property Organization (WIPO) and subsequently included among the obligations that all present and future ICANN-accredited registrars are required to accept and include in their contracts with domain names registrants.

With respect to the task of promoting a more competitive structure of the markets for domain names, ICANN introduced the aforementioned separation of functions between registrars and registries and, with the help of the US DoC,[44] forced first NSI, then any subsequently appointed registry operator, to accept a "shared registry system": in such system any company acting as registrar can access the registry database in order to assign domain names to end users. This form of reorganisation has been compared to the one in the US telephone market following the AT&T divestiture, although with the remarkable difference that in the DNS there are no comparable barriers to those existing in the telecom local exchange market.[45]

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[42] See ICANN's bylaws, cit. at footnote 40, at Article I, Section 1.

[43] As dictated in the MoU at II.C. The Principles. However, the implementation and specification of these principles in the bylaws has been subject to a number of amendments, resulting in a list of eleven "core principles" that include the recognition of the role of Governments and the commitment to promote competition "where practical and beneficial" and "where feasible and appropriate". See bylaws, cit. at footnote 40, Article I, Section 2.

[44] NSI was still a US Government contractor and therefore the DoC could leverage its position in order to force NSI to accept and to enter into the ICANN system.

[45] M. Mueller "Towards an economics of the domain name system" available at www.icannwatch.org at page 28, last visited on 30 August 2004.

Competition in the registry markets was, however, a much more delicate issue, as the DoC itself had indeed acknowledged in the White Paper,[46] thus leaving it to be dealt with by the envisaged new corporation.

In fact, even after the said reorganization of the system to allocate domain names, NSI/Verisign still maintained the control of the registries for .org, .net and .com and moreover it continued to run also its registrar business through a subsidiary. Furthermore, NSI was (and is) still the biggest registrar. It is, thus, understandable that despite the increase in the number of the entities operating in the markets for domain names, this concentration of activities in the hand of one single firm was still the source of concerns and complaints. Therefore, the US Department of Commerce and ICANN pushed through a plan of divestiture of parts of its business, that NSI was forced to accept,[47] in exchange of several reassurances and the prorogation of its control over the .com registry: both (1) separation of the three registries and (2) unbundling of the registry from the registrar business were in the agenda.

As implementation of the point sub (1), Verisign was forced to give up the management of the .org registry, then reassigned to the Public Interest Registry (PIR).[48] However, the PIR avails itself of the services of Afilias, another existing registry operator;[49] this implies that the reduction of the weight of NSI (because it was deprived of the .org management) did not result in an increase in the number of market actors. Lately, also the contract for the management of the .net has been put under review. The process of reassigning the .net registry is still under discussion at the time of writing and several companies have proposed themselves for this task, including Verisign itself, and it is not excluded, in principle, that it could be allowed to maintain it.[50]

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[46] See the White Paper cit at footnote 38 at point 6, lett. b.

[47] The first agreements in this sense date back to September 1999 and were renegotiated in 2001, postponing the divestiture of the registrar business in exchange of the dismissal of the .org registry. For details, see M. Mueller, Ruling the root, cit at footnote 23, at page 194 *et seq*.

[48] The transfer took effect from 1st January 2003. See http://www.icann.org/announcements/announcement-03dec02.htm, last visited on 30 September 2004.

[49] Afilias is the registry for the .info TLD. See below at footnote 57 and accompanying text.

[50] Verisign is indeed pleading for having the .net reassigned. The feeling, however, is that the intention is to choose a company other than Verisign. The final outcome will depend, of course, on the relative bargaining power of the parties and on the "threat" that Verisign

As for the point (2), Verisign had to divest its registrar business, still run under the denomination of NSI. The transfer was expected already in 2002, but was eventually postponed and finally completed in November 2003, with the sale of the NSI registrar branch to Pivotal Private Equity.[51] Verisign, however, retained a 15% equity share.

A third instrument called for in order to enhance competition in the registry market (as well as for satisfying the great demand from all over the world) was the long awaited creation of new gTLDs: these would be operated by new companies, thus increasing the number of competitors in the market.[52] The process of adding these new TLDs was however far from smooth: it took two years since it was created, before ICANN resolved itself to call for proposals of new gTLDs; when the time came, each applicant was required to pay a non refundable 50.000 USD application fee; in ICANN's words, this fee was "intended to cover ICANN's costs of receiving and evaluating the application, including performing technical, financial, business, and legal analyses, as well as ICANN's investigation of all circumstances surrounding the applications and follow-up items".[53] Forty-four applications were received for nearly 300 new TLDs,[54] and ICANN announced that the outcome of the selection would be a test or a proof of concept requiring further study before being repeated.[55] At the end of a fuzzy selection process, only seven TLDs[56]

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might still able to exercise, given its position of former leader of the market. On the whole procedure, see http://www.icann.org/tlds/dotnet-reassignment/dotnet-general.htm, last visited on 30 September 2004.

[51] See the press release on Verisign's website at http://www.verisign.com/verisign-inc/news-and-events/news-archive/us-news-2003/page_200312181054389.html last visited on 6 December 2004.

[52] It is not for granted, however, that the new operators would in fact be true "competitors", as this qualification presupposes a certain definition of the relevant market, which is the subject of Chapter IV. Moreover, in principle, one company could be allowed to run more than one TLD and thus to control more than one registry: this would increase the availability of TLDs but would obviously not increase the number of operators in the market.

[53] ICANN's 30 August 2000 "New TLD Application Process Overview", point no. 2 at http://www.icann.org/tlds/application-process-03aug00.htm last visited on 4 November 2004.

[54] The archive of the TLD Application Process is available at http://www.icann.org/tlds/app-index.htm last visited on 4 November 2004.

[55] No schedule was foreseen for this evaluation to take place. Only recently a report was published. See above footnote 21 and accompanying text.

[56] Mentioned above at page 10.

were chosen and ended up being awarded to bidders very close to or already in the ICANN structure (especially existing registrars and their consortia).[57]

One last point worth mentioning refers to the principle of assuring global representation of Internet users within ICANN. For this to be achieved, an at-large worldwide election of some members of the Board had been foreseen. Unfortunately, it resulted in a very unsatisfactory operation: the whole organisation was flawed and a large share of Internet users was *de facto* excluded;[58] serious doubts were raised with respect to the actual possibility of obtaining a true representativeness all over the world, due to the digital divide, difference in Internet-awareness and so on; moreover, in any case, the newly at-large elected directors were kept away from the most important and sensitive decisions, as their participation to the Board was foreseen only after the approval of the mentioned Uniform Dispute Resolution Policy (UDRP)[59] and of the selection of the new gTLDs.[60]

As a matter of fact, not so long after its creation, ICANN's management of the DNS was already seen as unsatisfactory, unworkable and was subject to severe criticism: tasks had not been accomplished or not in a satisfactory way, lack of transparency and democratic deficit were lamented as well as the lack of legitimacy and capture by its constituencies. The US Congress directly threatened an action if the situation was not improved within a reasonable delay.[61]

Another process of review and reform was then started, this time conducted within ICANN itself and led to the creation of what has been called

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[57] For a list of all the TLD registries see Appendix I at the end of this work. A detailed and amusing report on the selection process is contained in M. Mueller Ruling the root, cited above at footnote 23.

[58] This writer was herself among the excluded users, despite many attempts to obtain the necessary codes from the California headquarters.

[59] See above at page 15.

[60] A lawsuit and an order of the Court of California was necessary even for allowing one of the at-large Directors to gain access to the corporation's financial documents. The material of this case is posted at http://www.domainhandbook.com/legal.html#auerbach last visited on 24 November 2004.

[61] For some examples of the initiatives within the US Congress, see http://www.icannwatch.org/article.pl?sid=02/06/21/123224&mode=thread and http://www.icannwatch.org/article.pl?sid=02/03/11/120932&mode=thread last visited on 6 December 2004.

ICANN 2.0[62] in December 2002. The result of this process was the creation of today's ICANN: an organisation that stays private in nature, but committed to recognise the input of main Internet stakeholders and of sovereign governments; the attempts of direct at-large participation of worldwide Internet users were given up, and their role was converted into the creation of an at-large advisory committee. However, to date, the reform has not showed to have influenced ICANN's conduct to a great extent nor proved it particularly effective in addressing the sources of dissatisfaction. Indeed, at the time of writing, several rounds of discussion on the future of the Internet Governance are taking place at international level; the International Telecommunication Union (ITU) in particular has been active through the so-called World Summit on the Information Society (WSIS)[63] which is gathering many governments around a table to discuss the most relevant issues, and has so far produced a Declaration of Principles and a Plan for Action.[64] The WSIS, which is gaining more and more support around the world, has set up a specific Working Group on Internet Governance in preparation of the second phase of the summit that will take place in 2005.

I.3 ICANN: structure and functioning

As just said, ICANN is an American not-for-profit company incorporated in 1998 under the laws of California. In the current structure,[65] after the reform of 2002, ICANN has a President and CEO, a board of directors, appointed in a rather complicated way, intended to represent the

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[62] See M. Froomkin, "ICANN 2.0: Meet the New Boss", in *Loyola of Los Angeles Law Review*, 2003, vol. 36, p. 1087

[63] See http://www.itu.int/wsis/ last visited on 23 October 2004.

[64] In particular, the ITU is gaining more and more support from governments all over the world and especially from third-world countries, dissatisfied of ICANN's current organisation. See, for instance http://www.icannwatch.org/article.pl?sid=03/12/12/1140241&mode=thread and for a more recent action http://www.icannwatch.org/article.pl?sid=04/09/17/0431226&mode=thread last visited on 4 October 2004. As for an example of the reactions generated by these international meetings, see, for instance, the testimony of a US DoC officer at a Congressional hearing, stating that the ITU is not qualified to perform the functions currently carried out by ICANN. See http://commerce.senate.gov/hearings/testimony.cfm?id=1324&wit_id=3863 via www.icannwatch.org, last visited on 4 October 2004.

[65] See the diagram of ICANN's organizational chart in Appendix 1.

Internet stakeholders, in particular registries, registrars, Internet service providers (ISPs) and intellectual property right (IPR) holders; there are also three supporting organizations (one of them representing again registries, registrars, ISPs, businesses and IPR holders) with the right to elect two directors each, and a number of advisory committees set up for different purposes, including a Governmental Advisory Committee (GAC).

The board is the governing body of the corporation and has 15 voting members appointed for three years, renewable for a maximum of three terms,[66] and six non voting liaisons. The board take decisions in the course of one of its meetings or when the consent has been reached without any meeting but is documented in writing. The so-called Supporting Organizations (SOs), are defined by ICANN's bylaws as "policy development" bodies. Each in its own field discusses and proposes what it considers the most suitable policy, while the final decision with respect to the adoption of such a policy rests with the ICANN board. However, the board shall adopt the policy proposal coming from the SO, unless at least 66% of the board members expresses the view that such policy is not in the ICANN interest or in the interest of the ICANN community.[67]

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[66] Artiche VI, Section 8 of ICANN's bylaws.

[67] See Appendix 1 to ICANN's Bylaws, section 13 b) and Appendix 2 to ICANN's Bylaws, section 15 b).

ICANN's organizational structure includes a board of directors, three supporting organizations and a number of committees. Going in detail:

The **board of directors** consists of 15 voting members (and 6 non voting liaisons): a president, 8 members appointed by the Nominating Committee and 2 by each of the supporting organizations.

- The **President**.
- **2 members** appointed by: the **Country-Code Names SO** (**ccNSO**) consist of the ccTLD managers and a ccNSO Council.
- **2 members** appointed by: the **Address SO** includes the Regional Internet Registries that are signatories of the MoU: ARIN, APNIC, RIPE, LACNIC.
- **2 members** appointed by: the **Generic Names SO** (**GNSO**) consists of various Constituencies and a Council that decides the policy orientation of the SO. – appoints **2 members** of the board. The Council consists of:
  - 12 representatives of the Constituencies (2 each)
    1. Registries (each representative casts two votes)
    2. Registrars (each representative casts two votes)
    3. ISP
    4. Commercial Users
    5. Non-Commercial Users
    6. Intellectual Property holders
  - 3 members appointed by the Nominating Committee
  - 2 non-voting liaison (appointed by GAC and ALAC)
- **8 members** appointed by: the **Nominating Committee** which in turn consists of 17 members and 5 non voting liaisons. The members of the Nominating Committee are appointed:
  - 5 by the **ALAC**
  - 7 by the constituencies of the **gNSO** (generic Names Supporting Organization):
    1. gTLD **Registries** Constituency
    2. gTLD **Registrars** Constituency
    3. **ISP** Constituency
    4. **Small businesses** (Business Users Constituency)
    5. **Large businesses** (Business Users Constituency)
    6. **Intellectual Property** Constituency
    7. **Non-Commercial Users** Constituency
  - 1 by **ccNSO** (country-code Names Supporting Organization)
  - 1 by **ASO** (Address Supporting Organisation)
  - 1 by **IETF**
  - 1 by ICANN **Technical Liaison Group**
  - 1 by the **Board** intended to represent academics

  The non voting liaisons are appointed by:
  - the ICANN Board (Chairperson)
  - immediately previous Chair (➔appointed by the board)
  - SSAC
  - RSSAC
  - GAC
- **6 <u>non voting</u> liaison** to the Board, each appointed by:
  - the GAC (Governmental Advisory Committee)
  - the ALAC (At-Large Advisory Committee)
  - the Root Server System Advisory Committee (RSSAC)
  - Security and Stability Advisory Committee (SSAC)
  - Technical Liaison Group (TLG)
  - The Internet Engineering Task Force (IETF)

Table 2 – Overview of ICANN's Organization

Among all ICANN's bodies, it is interesting to take a look at the Supporting Organizations. The Address SO, whose members are the Regional Internet Registries,[68] advises the Board with respect to issues related to management of IP addresses.[69] So far, these addresses have not been the source of major disputes or discussions, except for the issue connected to the introduction of a new standard protocol (called IPv6) which would allow to have more of them.[70]

The country-code SO gives advice on ccTLDs issues. Its members are ccTLD registries that have agreed in writing to be part of it.[71] This SO was only very recently created, when the minimum figures indicated in the Transition Article of the ICANN bylaws were finally met.[72] Nevertheless, the vast majority of ccTLD managers, in particular in Europe, have refrained from entering the ICANN structure.[73]

The most influential SO, at least for the time being, is the Generic Names Supporting Organisation (GNSO). This SO consists of various constituencies, representing the different stakeholders, and a Council that decides the policy orientation. The competences of the GNSO cover all those aspects related to the generic Top Level Domains.[74] Article X, Section 5 of ICANN's bylaws prescribes that half of the votes in the GNSO Council shall

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[68] There are 4 Regional Internet Registries (RIR) that are in charge of blocks of Internet addresses all around the world. Each has received a delegation by IANA, currently absorbed within ICANN, for a certain region: Europe (RIPE-NCC), Asia- Pacific (APNIC), America and Sub-Sahara Africa (ARIN), Latin-American and Caribbean (LACNIC).

[69] Article VIII, Section 1 of the bylaws. For instance, this SO is guiding the discussion for the introduction of the new standard protocol for IP addresses, called IPv6. See the announcement of 16 September 2004, on ICANN's website at http://www.icann.org/announcements/announcement-16sep04-2.htm last visited on 8 December 2004.

[70] See above in Section I.1.

[71] Article IX, section 2.

[72] Article XX, Section 4 provides that at least 30 ccTLD registries and, among them at least 4 from each geographic region, are required in order to create the SO. This threshold was eventually met in March 2004, although the founding members are far from being truly representative of the ccTLD community: for instance, the four European ccTLDs are from the Netherlands, the Czech Republic, Gibraltar and… the Caribbean Cayman Islands (!). See http://ccnso.icann.org/announcements/ccnso-statement-01mar04.pdf last visited on 3 October 2004.

[73] See the discussion of this issue below at page 116.

[74] Article X of the Bylaws.

be controlled by the constituencies that are under contract with ICANN, that is Registries and Registrars. This feature has important consequences. While the other constituencies within the GNSO have a potentially unlimited and not predetermined membership, and not necessarily converging interests and views, the two mentioned above are in fact well determined ex ante: all registries and registrars are those selected and accredited by ICANN and in some cases, they may (partially) overlap.[75] Moreover, these two constituencies have rather homogeneous interests and the potential for agreeing on common goals, goals that are often shared by another constituency, the IPR holders. This implies that the above mentioned rule X.5 has practically the effect that the policies developed by this SO as adopted by this SO Council will in fact mirror the interests of the registry/registrar constituencies. This is particularly important when considering some of the most debated issues concerning gTLDs, upon which the ICANN board will be inclined to follow the policy orientation of the GNSO Council. The paradigmatic example is the introduction of new gTLDs, where the policy orientation of the SO is – understandably – likely to be very conservative: to introduce new TLDs would amount to accepting new competitors, a possibility that the incumbents have obviously all the incentives to minimise.[76] Indeed, the introduction of new gTLDs is currently conducted as a lengthy process at the end of which only some TLDs of limited interest are being added to the root.[77]

Two other bodies are worth mentioning, especially after the 2002 reform brought about some substantial changes concerning the role of national governments and the representation of Internet users: the Governmental Advisory Committee (GAC) and the At-Large Advisory Committee (ALAC). The approach to worldwide Internet users representation within the

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[75] Just to give an example, Afilias, the registry operator for .info is actually a consortium of accredited registrars.

[76] This position would be even backed by another constituency of the GNSO, namely that of IPR holders, which strongly oppose any increase in the name space for fears of parallel increase in the cybersquatting.

[77] The last two being proposed are .post and .travel. See the announcement of 27 October 2004 "ICANN Moves Forward in First Phase Commercial & Technical Negotiations with Two sTLD Applicants" on ICANN's website at http://www.icann.org/announcements/announcement-27oct04.htm last visited on 8 December 2004. Recently, ICANN has announced that .travel and .jobs have been "officially designated" while for a bunch of other sponsored TLDs (including .post) discussions are ongoing. See the 8 April 2005 announcement at http://www.icann.org/announcements/announcement-08apr05.htm.

organisation in ICANN 1.0 was rather ambitious, and was meant to be assured by at-large elections of some board members;[78] nowadays this system has been replaced by the creation of ALAC, another ICANN's advisory committee representing the interests of at-large users, holder of consultative functions and of the right of electing a minority of the nominating committee which in turn will elect a few members of the board.

As for the GAC, in their original version, ICANN's bylaws[79] had already foreseen the existence of a governmental advisory committee, but had also stressed ICANN's independence from sovereign governments in the decisions concerning DNS policies.[80] The new bylaws, on the contrary, recognise a greater role for governments,[81] albeit still a consultative one. In short, although ICANN is still a private corporation and no governmental representatives can be board members,[82] the GAC has the right to send a non-voting liaison to board meetings[83] and may recommend the ICANN board to take certain actions;[84] on its part, the board has to notify to the GAC "any proposal raising public policy issues"[85] and has to motivate any departure from GAC's recommendations.[86] The GAC Secretariat is currently run by the European Commission.

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[78] See above at page 18.

[79] Available at http://www.icann.org/general/archive-bylaws/bylaws-06nov98.htm last visited on 8 December 2004.

[80] Of course, this does not mean in any way that ICANN is above the law: it is a legal person, a US corporation and its actions are always subject to the law, according to the ordinary principles.

[81] Article I Section 2.11 of the bylaws states that ICANN shall, "While remaining rooted in the private sector, recogniz[e] that governments and public authorities are responsible for public policy and duly taking into account governments' or public authorities' recommendations".

[82] Article VI Section 4: "Notwithstanding anything herein to the contrary, no official of a national government or a multinational entity established by treaty or other agreement between national governments may serve as a Director. As used herein, the term "official" means a person (i) who holds an elective governmental office or (ii) who is employed by such government or multinational entity and whose primary function with such government or entity is to develop or influence governmental or public policies".

[83] Article VI, section 9.1 a).

[84] Article XI, Section 2.1.i.

[85] Article XI, Section 2.1.h.

[86] Article XI, Section 2.1.j.

A few words are deserved for ICANN's relationship with the US Government. As a private corporation, ICANN is formally independent, in the sense that the government plays no role in the selection of the directors and, in principle, only participates to the GAC as any other government. Nevertheless, there are rather obvious links: the basic principles of ICANN's actions are those described in the US Government's White Paper; ICANN is a US DoC contractor, through the MoU and the other contracts entered into in order to accomplish the tasks related to the privatisation of the DNS and to perform IANA's functions;[87] the DoC exercises ongoing supervision, although it has not shown a real intention to review ICANN's decisions.[88] Moreover, those contracts are concluded only for a determined period of time, subject to renewal, thus putting ICANN in the position of risking having the contract terminated, should it not properly fulfil its task. However, it has to be acknowledged that this possibility seems, at the current state, rather theoretical: on the one hand, there is no actual or potential successor for ICANN's role and, on the other hand, it does not seem that the US government will be willing to step in to directly manage the DNS.

Besides, the US Congress itself has held several hearings in order to examine the situation of ICANN, of the international cooperation in management and governance of the DNS, and the security of the Internet's root servers and the DNS.[89]

The relationship with the US government cannot, therefore, be completely equated with that of the other governments around the world, and this makes the case for persisting international concern about the American control of an essential global resource and helps explaining the attempts of achieving a global system for Internet governance.[90]

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[87] IANA is the Internet Assigned Numbers Authority, in charge of the management of the IP numbers. See above at page 12.

[88] See M. Froomkin and M. Lemley cit. above at footnote 127, at p. 112 *et seq.*

[89] http://commerce.senate.gov/hearings/witnesslist.cfm?id=1324, via www.icannwatch.org, last visited on 19 October 2004,

[90] For example, the repeated attempts at ITU level, which I have referred to above in Chapter I.

I.4 Alternate roots

In our story there are also some "ogres" that eventually came out to alter the crystalline hierarchical structure of the DNS. These are the so-called alternate roots.

The commercial Internet was growing; the most desired SLDs under the existing (and appealing) TLDs were already taken; the need for new and "attractive" gTLDs was apparent everywhere. The problem was that, except for the addition of some new ccTLDs, the generic TLDs were still the initial seven, of which only some were available to the general public.

As it usually happens when there is demand for a new product, somebody started offering it. However, if users' ISPs point to one and the same authoritative database, i.e. the A-root or one of its copies, a company wishing to offer access to new gTLDs has to convince the manager of the A-root to add their entries into the database, otherwise users would not be able to see them. More specifically, it meant trying to persuade then NSI and later ICANN to accept them as registries for those new TLDs. In both cases, it proved unrealistic. NSI would never accept competitors in the market where it was, at that time, the *de facto* monopolist; when it was sued in Court in order to get a new TLD into the root, it could successfully shield itself behind the US government.[91] When it came the turn of ICANN, among whose tasks was specifically the addition of new TLDs, the California corporation was revealing itself as very bureaucratic, slow and rather conservative: as mentioned, it eventually decided to add to the root some TLDs, but very limited a number and after the above described burdensome and not very transparent process.[92]

Nonetheless, at different times and with different success, some companies found their way. A first attempt was to run ccTLDs, more easily added to the root, as actual gTLDs, putting aside any connection with the "country" or territory they referred to, and instead stressing the evocative meaning: the typical examples are the Tuvalu Islands' .tv or the Cocos Islands' .cc.[93] A more risky attempt was made by those companies that decided to

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[91] There had been specific statements by the DoC that new TLDs would be added only upon its authorisation.

[92] At page 17.

[93] In fact, even the Italian TLD .it could be used evocatively for English speaking customers: www.buy.it, www.eat.it and so on.

operate, not as registries, but as alternative roots to the mainstream one. They represent the real "ogres" because they put themselves outside the mainstream hierarchy and outside ICANN's control.

Alternate roots proved in fact to be quite ingenious in the systems they employed to overcome the problem of being accepted in the legacy A-root. Because of the way the DNS is structured, users (their ISPs) have to point to one root in order to resolve a domain name. In principle, there is no necessity that they point to the mainstream NSI/ICANN[94] managed A-root. However, there is a limitation to the freedom of choice and it depends on the fact that if ISPs point to more than one root, the result might be conflicting answers to the same query: in response to a certain domain name, the user might be directed to different resources on the Internet. In this situation, therefore, if a ISP has to choose between two competing roots, it is likely to choose the big, "official" one rather than these unofficial and small alternatives.[95]

In order to go around this problem, some companies proposed themselves as supersets of the "official" DNS hierarchy, positioned upstream to the official hierarchy and "transparent" to the NSI/ICANN system. This way, if an ISP decided to point to the alternative root, instead of the NSI/ICANN A-root, not only would it be able to access the new gTLDs but it would allow users also to "see" the whole hierarchy of the classical ones.[96] In other words, users were gaining the new TLDs without losing the old ones: if users requested a domain name under .com, .net etc., they would be redirected to NSI/ICANN; if they requested a .web, the domain would be resolved within the alternate root's hierarchy. Obviously, neither NSI nor ICANN did anything similar to allow users to access alternate roots' databases: if a user, whose ISP pointed to NSI/ICANN, typed something.web, she would receive just a "Not found" response.

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[94] Alternate roots emerged both before and after ICANN came into existence. Therefore, I am referring to the "official" hierarchy not as the "ICANN system", but as the NSI/ICANN one, NSI being ICANN's predecessor in the maintenance of the authoritative A-root; see above at page 13.

[95] The reasons for and the problems raised by this result will be explored in more details in the following chapters.

[96] This was the case for companies like AlterNic or Name.Space or Chris Ambler's .web registry. Some of them had even applied for running a ICANN approved TLD in 2000, but were rejected because of being existing alternate roots.

Another strategy, used in combination with the previous one by an alternate root called New.net,[97] consisted of offering new TLDs within the structure of the existing hierarchy, but requiring users to install an additional software in order to view the new domain names: a special plug-in software would allow users to look for a website responding to an address under a gTLD not belonging to the official root and the software would translate it into a fourth level domain of the new.net database, which in turn belongs to NSI/ICANN's hierarchy. For example, users have the possibility to type in their browsers www.pizza.shop (where "shop" is the TLD and "pizza" a second level domain) and the plug-in software would translate it into www.pizza.shop.new.net (where "shop" is a third level domain and "pizza" a fourth level domain) that is resolved within the mainstream domain names database via new.net (respectively second and top level domain).

While there is in principle nothing wrong or illegal (at least for the time being) with the attempts of developing new root servers, as one can easily imagine, they were not really welcomed by the companies belonging to the mainstream hierarchy. Their reactions were said to have assumed the characteristics of a religious war,[98] with alternate roots being accused of breaking the Internet and endanger the universal resolvability of the DNS.[99] It has been reasonably suggested that the rise of alternate roots is inversely related with the showed willingness of the incumbent mainstream root operator to add new entries (i.e. TLDs) into the database:[100] when there are expectations of an increase of the entries in the legacy root server, the interest in the activity of the competitors declines. However ICANN has failed to date to provide a clear and predictable plan for the creation of new gTLDs,[101]

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[97] http://www.new.net.

[98] Milton MUELLER, "Competing DNS Roots: Creative Destruction or Just Plain Destruction?", in 3 *Journal of Network Industries*, 313 (2002), at page 2 of the version available online at http://istweb.syr.edu/~mueller/tprc-2001-mueller.pdf last visited on 4 October 2004.

[99] On this issue, see more in detail later, in Chapter IV.

[100] *Id.* at page 15.

[101] A recent attempt to draw up a "strategy" in this sense has been published on ICANN's website on 30 September 2004, in execution of an obligation contained in the MoU with the US DoC, but many commentators have convincingly argued that it cannot be reasonably claimed as a substantial improvement. See below at footnotes 317 and 318 and accompanying text.

therefore it cannot be excluded that a new wave of interest in alternate roots will arise.

II. ECONOMIC ANALYSIS OF THE DNS

To begin with an economic assessment of the DNS, it might be interesting to have a look at some of the figures of the industry. There are over 50 millions domain names registered worldwide, not counting those registered under national ccTLDs;[102] the domain name industry is generating revenues estimated in 2.5 billion USD per year in 2002;[103] the main domain names registry/registrar operator was acquired by Verisign for 21 billion USD[104] in 2000; ICANN's budget anticipated around 16 million USD expenditure for the next fiscal year.

Yet, economic analysis is not just about numbers, therefore in the following sections I will try to delineate a possible understanding of the domain names industry, pointing out the main economic characteristics.

II.1 Domain Names scarcity: there is no such thing as a free lunch

It has been often stated that domain names are "scarce"; it has been argued that the DNS root service itself is a "scarce" resource".[105] The characteristic of being "scarce" needs a more careful look.

Scarcity, in economic sense, means that it is costly (also in terms of opportunity costs) to produce a good, that in order to obtain a good, some resources (time, money etc.) have to be deviated from the realization of something else.

Clearly having this in mind, Prof. Manheim and Solum argue that the root is a scarce resource, basically for two reasons: first, because it takes time, money and resources to run the root and second because different domain names (including TLDs) have different market values and different functional

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[102] Source www.webhosting.info last visited on 27 April 2005.

[103] See Milton Mueller "Towards and Economics of the domain name system", cit above at footnote 45 at page 2.

[104] http://money.cnn.com/2000/03/07/deals/verisign/ last visited on 4 October 2004.

[105] MANHEIM, Karl M. – SOLUM Lawrence B. "An Economic Analysis of Domain Name Policy", Loyola Law School Research Paper no. 2003-14 – May 2003, available at http://ssrn.com/abstract=410640, at pag. 33 and following.

utilities (if freely sold on the market, .cool and .c-djw would have different prices and different utility – exactly as business.com and xgfkjrf.com have different prices and utility. Yet, incidentally, it is worth noting that among the most valuable domain names we can count many which were just invented or with no particularly evocative meaning). [106]

Furthermore, they argue, scarcity of the root is the consequence of the principle that domain names are not allowed to fail: once one of the available TLD "slots" has been allocated to a specific gTLD (say .int) and this gTLD does not "sell" on the market (because only a few hundreds registrations have taken place), the unsuccessful TLD cannot be replaced with a more successful one because the .int subscribers would be eliminated from the Internet and this violates the principle of non-failure. Therefore, the slot will be locked up forever. This last statement, to be sure, is based on two assumptions which are both questionable: first, why should it not be possible to reallocate the slot? And second why should the number of slots even be limited?

Beside this, in general, this understanding seems reasonable: hardware, software, people are needed to "produce" TLDs[107] and run the root file and undeniably different people deriving different utility from a TLD[108] (for any reason, depending on their personal preferences) are willing to pay a price (different prices).[109] Therefore, the root can be considered as "scarce" in pure economic sense.

Yet, the consequence of the attribute of scarcity is, at this point of the analysis, simply that domain names – and Top Level Domains – are "economic goods", which can be analysed economically and, recurring other conditions, can be sold on a market. It is actually a basic assumption in order to further discuss the problem.

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[106] I am referring to those names that were made famous on the Internet itself, such as google or yahoo or amazon: investments on building a brand make possible that even non obviously meaningful words as msn or icq develop all the potential to become valuable, just as it normally happens in the "real" world.

[107] However, it is a different question the one about the measure of the resources to be employed for the production of this "good", which is a matter of efficiency. This will be discussed below.

[108] As with any other second or third level domain name.

[109] Indeed, business.com has been sold for 150.000 USD in 1997.

Indeed, we can equally reasonably assume that there is no natural[110] scarcity of domain names, as the cited authors also acknowledge:[111] the possible combinations of letters and numbers under the current setting (allowing 2, 3 or 4 letter TLDs) are almost two millions, and the setting itself can be changed if necessary, allowing longer TLDs, for instance. Users' and commentators' common impression of "scarcity", in the non-technical meaning that too big a share of the demand of TLDs remains unsatisfied, is a different issue that requires further investigation. This circumstance seems rather to be dependent on the policy of perpetuation of scarcity pursued so far by the root operator: indeed, as it was mentioned above, in 2000 only a few TLDs were introduced and what is being proposed in 2004 is the insertion in the root only of one or two new sponsored ones.[112] If things stay as they are now, the issue of (good) domain names scarcity does not seem will be solved in the near future within the mainstream hierarchy.

II.2 Public goods

Another misunderstanding about the domain name system relates to the nature of the DNS as a "public" resource. This is an important claim, since public goods represent a market failure that needs the intervention of the state in the form of regulation or, ultimately, of direct supply of those goods.

However, while it is an understandable claim that the DNS be of public interest, in pure economic terms it is but a "private" good, as opposite to "public" goods. In fact, like the concept of scarcity, also the expression "private good" has a peculiar economic meaning which is different from the common one and refers to the circumstance that the good in question is "rivalrous in consumption" and "excludable in supply". As for this qualification, I agree with Solum and Manheim's arguments, which are straightforward.[113]

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[110] Or engineering scarcity, as the cited authors call it.

[111] Cit. at footnote 105 at page 32.

[112] See http://www.icann.org/announcements/announcement-27oct04.htm last visited on 6 December 2004.

[113] Cit. at footnote 105, page 41 and following to which the reader is referred for further explanations.

"Rivalrous in consumption" means that the use of the good by one individual prevents or limits the use by another individual; "excludable in supply" means that the supplier of a good cannot exclude any individual from enjoying that good.

Let's briefly recall the way the root file works: it connects any TLD with its own registry operator, so that anyone looking for a website under some domain will be addressed first to the registry operator of the TLD, then from there to the registry of the SLD under that TLD and so forth. Therefore, the assignment of the TLD .com to one registry operator, prevents anybody else from being assigned the .com, thus any end user will be pointed only to the assignee indicated in the given root: the use of that root is therefore rivalrous; it is also excludable, since the root service provider can at any time decide to prevent the current .com registry from accessing the root, simply eliminating the entry in the database so that users will not connect to the former registry anymore.[114]

It follows that there is no public nature to be invoked to make the case for a state supply of domain name service or a state managed DNS.

II.3 Natural monopoly

It could be – and it has been[115] – argued that the DNS constituted a natural monopoly.

A natural monopoly occurs when the production of a good or service by a single firm minimizes costs and is therefore, in principle, more efficient than the production by competing firms. However, just as any other form of monopoly, also natural ones cause losses to the society through reduction of output and monopoly pricing. In order to solve this dilemma, natural monopolies are most of the times subject to public regulation.

Generally, natural monopolies are those industries in which relevant initial investments are necessary to build the basic infrastructure whose

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[114] The same happens with respect to lower level domains: the assignment of the SLD "microsoft" in the registry .com to one company prevents anybody else from being assigned the same domain name; moreover, the .com registry operator can at any time, or according to the contract, decide to deny the previously granted assignment, thus excluding the former client.

[115] Cfr. Solum and Manheim cit. at footnote 105, page 47 and following.

reproduction by competing firms is not economically feasible or not desirable, since it would constitute just a loss for the society. The cost structure of a natural monopolist is thus characterized by declining long run average costs for the relevant volumes of output.

However, all this might not be enough to qualify an industry as a natural monopoly or, at least, to qualify it as a permanent one. Indeed, the level of the demand must also be taken into account. It might happen that a production that enjoys large economies of scale and declining average costs for a certain amount of output, for higher volumes shows rather constant average costs, meaning that the dramatic per-unit savings enjoyed at the beginning are finally over: with high enough demand, an industry is no longer a natural monopoly and a working competitive market can take place.[116]

In the case of the root server, as in the case of natural monopolies, the major investments occur at the moment of the establishment and the organization of the root-database, the DNS hierarchy and all the necessary protocols. Once the DNS has been set up, the cost of adding an additional gTLD to the root is, at least in theory, practically negligible:[117] it is just the cost of putting a new entry into a database file. The costs of keeping the legacy root (and its copies) always up-to-date does not influence the level of the marginal costs, since the updating activity is part of the fixed costs for managing the root and is, anyway, mostly computerized.[118]

However, apart from these similarities, there are also some relevant differences with natural monopolies.

First, it must be taken into account that traditional natural monopolies are characterized not only by a large gap between fixed and variable costs, but

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[116] Viscusi-Vernon-Harrington Economics of Regulation and Antitrust, MIT Press, 2000, page 338.

[117] To this, the costs for making a contract with the registry operator are to be added. However, it is fairly easy to elaborate a standard form which can then be used for all subsequent cases. For example, to date the contract with the registrars is standardised. It is available on ICANN's website at http://www.icann.org/registrars/ra-agreement-17may01.htm, last visited on 6 December 2004.

[118] In other words, the new version of the root file must be mirrored by all the 13 copies around the world and by all the lower level name servers. However, this cannot be considered part of the marginal costs, since it is an activity which is not done only in the event of a new TLD added to the legacy root, but it is regularly performed in order to keep the name servers always up-to-date.

also by the very relevance of the fixed costs, most of them being sunk.[119] In the case of the domain name industry, it does not seem that the basic infrastructure to operate a root file could be considered non reproducible nor that creating and maintaining a competing root could be seen as a loss for the society. On the contrary, setting up such a competing root looks quite easy and cheap, as the rise of several of them showed[120] and could even be deemed beneficial for society, helping satisfying the excess demand.

The costs of setting up the root file itself are not that high and most of them, as well as the costs for organizing and managing it are actually absorbed – or at least enjoy relevant economies of scope with the management of the TLD registry downstream – since competing roots can and often do run also TLDs registries.

As for the technologies underlying the functioning of the Internet as well as the main Internet Protocols (TCP/IP, HTTP etc.), they are all open and available for free. The very idea of the hierarchical organization of the domain name system is not proprietary. Therefore, alternative roots can – and do – make use of all these at no cost , as well as the main root operator does.

This is the consequence of the peculiar history of the DNS and of the Internet itself. Indeed, such technologies and ideas have been the result of the work of scientists, researchers and academics, sometimes financed with public funds, whose choice was to let these ideas and technologies be available to everybody in order to favour the growth and development of the Internet. As a matter of fact, nobody has ever questioned the right to freely use all these protocols and technologies. This fact also implies that, differently from other cases of natural monopoly, there is little case for advocating a reward for innovation or investments incurred by the incumbent root

It is interesting to observe here, that doubts about the qualification as a natural monopoly are more and more frequently raised even with respect to traditional communication networks, like the telephone one, where the costs

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[119] See A. Portolano "Il caso Microsoft e la concorrenza nelle network industries", in *Dir. Inf.* 1999, p. 704.

[120] Keeping these competing roots into existence or even their success are different issues. See *below* in section II.4.

for reproducing the basic infrastructure are definitely higher than in the case of the DNS.[121]

From a different perspective, recalling the difference between a temporary and a permanent natural monopoly referred to above, the very history of the Internet governance could be seen as showing some features of an evolution from a more or less understandable monopoly, towards a viable competition: at the beginning of the Internet, the little demand of domain names and of TLDs was satisfied by a unique supplier. As the demand grew, however, the previous organization of the management of the DNS appeared not to be sufficient anymore.

Moreover, it can be noted that, looking at ICANN's budget,[122] the costs of managing the DNS seem to have increased as the demand for TLDs and other domain names is growing higher and higher. Therefore, in the persisting shortage of output (i.e. TLDs), new suppliers arose, out of the established hierarchy, showing that competition is actually possible and that it is profitable to run such a business.

II.3.1 Cost-efficiency

In the system as it is being managed today we can, however, start doubting that marginal costs are so low: when a new generic TLD has to be added to the existing legacy root, an enormous amount of resources is devoted to that. What we have learned from recent history is that years of discussions and debates precede the decision of actually increasing the number of gTLD; then prospective registries have to submit a complicated and costly application that is subsequently processed in some "mysterious" way. Once registries and gTLDs are selected, the negotiation phase starts and can last a couple of more years.

In fact, the growth in the costs of managing the DNS at root level, is more general, as it is testified by the increased budget expenditures.[123] Search

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[121] See M. Cave "An economic analysis of remedies in network industries", in "Remedies in Network Industries: EC Competition Law vs. Sector-specific Regulation" ed. D. Geradin, Intersentia 2004.

[122] The last adopted budget (fiscal year 2004/2005) is available at http://www.icann.org/financials/budget-fy04-05-06oct04.html last visited on 24 April 2005.

[123] For reference, http://www.icann.org/general/financial.html.

costs, negotiation costs, transaction costs, the costs for decision making within the same organisation, have reached and maybe risen above the attention ceiling. Also the Council of European ccTLD operators called the figures of the 2004 ICANN budget "unrealistic and inappropriate". All these considerations raise the suspicion that we might be observing the phenomenon of the growth of X-inefficiencies. These arise when, absent competitive pressure, cost control becomes loose.[124] It is among the consequences of a monopolized control over a certain resource, part of the monopoly dead-weight loss that could be minimised through the establishment of a more competitive market structure.

Recalling again the history of the issuance of the new gTLDs gives an interesting illustration of the point just made: each new applicant for a registry was required to pay 50.000 USD. In ICANN's words, this fee was "intended to cover ICANN's costs of receiving and evaluating the application, including performing technical, financial, business, and legal analyses, as well as ICANN's investigation of all circumstances surrounding the applications and follow-up items".[125] Forty-four applicants sent their 50.000 USD cheque, thus contributing to ICANN's budget for an amount of 2.2 millions USD. However, the actual costs of the whole application process, on ICANN's part, have been estimated in a little more than 800.000 USD.[126] Thus, it seems that ICANN has estimated its costs for the application/evaluation process for an amount almost 3 times as big.

It is true that ICANN is a non-profit corporation and therefore it has no direct incentive deriving from maximisation of profits through cost reduction. Nevertheless, x-inefficiency is a normal consequence of a "cost plus" system similar to the one that characterised pre-liberalisation public utilities, that were run with no incentives to make profits and that at the same time were highly x-inefficient. In those cases, the situation substantially improved due to the liberalisation process and to the rise of new competitors.

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[124] See Scherer and Ross Industrial Market Structure and Economic Performance, 3rd Ed. Houghton Mifflin Company, 1990.

[125] ICANN's 30 August 2000 "New TLD Application Process Overview", point no. 2 at http://www.icann.org/tlds/application-process-03aug00.htm, last visited on 27 April 2005.

[126] These data are derived from "The roving_reporter" posted on 15 January 2001 at http://www.tbtf.com/roving_reporter/icann5.html, last visited on 27 April 2005.

This is not to say that the DNS is a public utility, but it maybe suggests that a California corporation is being run as a quasi-bureaucracy,[127] whose interests are maximisation of budget, functions and prestige as well as "quiet life".

II.4 Network effects

So far, I have excluded that the DNS is to be qualified as a natural monopoly, and that existing "technical" limits can block the emergence of some competition in the market for root server operations. It has also to be excluded that large initial fixed or sunk costs are discouraging entry into the market. Indeed, some competitors do exist, the above mentioned alternate roots. However, as a matter of fact, they are not at all strong, only a few users point to them and, in general, they do not constitute a great threat for the incumbent root operator. Part of the reason for that is another peculiar feature of the DNS, making it likely that a situation of monopoly or dominance will eventually arise.

The main reason lies in the very nature of the domain name system as a type of network industry, exhibiting so-called network effects.[128] While natural monopolies are characterized by supply-side economies of scale, network effects occur when there are so-called demand-side economies of scale or positive feed-back, causing the value of a good for consumers to increase when more goods of the same type are sold. In these markets, the demand is function both of the price of the good and of the expected size of the network

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[127] However, ICANN is not a public agency nor an enterprise entrusted with the task of performing a public service. It has, admittedly, a procurement contract with the US government for carrying on certain economic activities, but this does not seem enough to transform it into a state actor or a bureaucracy. See later in Chapter IV at page 108. See also M. Froomkin and M. Lemley "ICANN and antitrust", in *University of Illinois Law Rev. 2003*, available at http://personal.law.miami.edu/~froomkin/articles/icann-antitrust.pdf

[128] For reference, see N. Economides "Competition Policy in Network Industries: an introduction", Working Paper 04-23 of the *NET (Networks, Electronic Commerce and Telecommunications) Institute*, June 2004, M. Katz and C. Shapiro "Antitrust in software Markets", in C*ompetition, innovation and the Microsoft monopoly: Antitrust in the digital marketplace* ed. by J. Eisenach and T. Lenard, Kluwer 1999, p.29; Lemley, Mark A. – McGowan, David "Legal Implications of Network Economic Effects", in *California Law Review*, May, 1998, p.479; Liebowitz & Margolis in "Network Externality: an uncommon Tragedy", in *Journal of Economic Perspectives*. 1994, p. 133; Cfr. Michael Katz and Carl Shapiro "Network externalities, competition and compatibility", in *American Economic Rev.* 1985, p.425.

and therefore the demand curve slopes downward as usual, but shifts upward with increases in the number of units expected to be sold.[129]

The classical example of a market with network externalities is the telephone network: it makes no sense to be the owner of the only telephone in the world, while, on the other hand, the more people subscribe to the telephone service, the more valuable is for the others to subscribe as well. A more recent and perhaps more questioned example is the software market: simplifying a little, the more people use Microsoft Word, the more it is valuable to have it to be able to exchange documents using the same codification and standard.[130]

The common feature of these markets is that the strong gets stronger and the weak gets weaker because a bigger network is preferred to a smaller one since it gives users the possibility of communicating with more subscribers.[131]

Network effects bring about several implications for the market structure: when these externalities are particularly strong, the optimal number of networks might be one and its optimal size might be "as big as possible"; but powerful network externalities might also work as a barrier to entry because to join an existing network with many customers, gives consumers more utility than to join a newly created – even if more efficient – one.

The issue is particularly important. These are likely to be so-called "winner-take-all" markets, meaning that they exhibit a strong tendency towards standardization and thus the one who wins the competition for the standard to

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[129] For the model, see N. Economides "The economics of networks", in *Journal of Industrial Organization*, 1996, p.678

[130] There is, however, a difference between these two examples: the telephone network is what has been called an "actual network" while the software example is a "virtual network", because in the latter case, the constituents of the network are not linked to a common system, but are tied together by functional compatibility. Moreover, goods constituting virtual networks are not deprived of any inherent value if not part of the network, differently from what we called "actual" ones. Cfr. Lemley-McGowan "Legal Implications of Network Economic Effects", in *California Law Rev.* May 1998, p. 490 and following.

[131] Shapiro and Varian refer to Metcalfe's law, according to which if there are *n* people in a network and the value of the network to each of them is proportional to the number of other users, then the total value of the network to all the users is proportional to *n* x (*n*-1), which means that the value of a network goes up as the *square* of the number of users. Cfr. C. Shapiro and H. Varian, Information Rules, Harvard Business School Press, 1999, at p. 184.

be adopted will likely have the lion's share of the market, regardless of being the best. This is what has been called "tipping". Moreover, in network markets, history matters, with strategic advantages (like first mover advantages) being long lasting. Therefore, who was there first has bigger chances of setting the *de facto* standard.

However, it is not always necessary to worry about that: the market could indeed have tipped in favour of the most efficient one, assuming the winner as the best player. Nevertheless, this does not necessarily imply that there must be only one supplier in the market, let alone that this supplier should be granted exclusive rights. Competition *for* the standard may still evolve into competition *within* the standard: whenever a standard has to be – or has been – adopted, the issue at stakes becomes compatibility: if more compatible products can use the same standard, there can still be competition in the market.

The conclusion is that we cannot say *a priori* that one market structure is preferable to others and maybe even a monopoly could maximize social surplus and reach the highest level of efficiency. It has to be noted, however, that the existence of network effects does not constitute a justification for a monopoly structure: it has been shown, indeed, that even in markets with relevant network effects, consumers' and total surplus will likely be lower in monopoly than in perfect competition.[132]

II.4.1 Network effects at work in the DNS

Coming to the domain name system, strong network effects are a quite obvious feature: every user wants to be connected with the ICANN's system because it was the first and it is the one allowing to reach the highest number of co-users.

In theory, each potential new operator can start a completely new network, using different protocols, and specially, different or even the same TLDs used in ICANNs network. There is no inefficiency in this reproduction of the "facility", because, as said above, it is not costly to duplicate the

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[132] Cfr. N. Economides, "The economics of networks", in *Journal of Industrial Organization*, 1996, p. 682 and following. See also CAVE and MASON "The economics of the Internet: Infrastructure and Regulation", in *Oxford Rev. of Econon. Pol.* 2001, vol. 17, no. 2, p. 188.

infrastructure (i.e. the connection of domain names, the whole tree), differently from the duplication of, say, railways.

Nevertheless, in a situation of complete separation and incompatibility between networks, alternate roots are in general much less attractive and have a hard time in reaching the "critical mass", necessary to take off, and the reasons are those explained above: if a domain name belongs to a smaller network, it cannot be seen by the majority of Internet users and thus the advantage of having a catchy TLD (like .shop or .kids or .sex) is neutralized by the impossibility of reaching and being reached by many customers.

Moreover, the incumbent has an easy task in locking in its customers even more, making use of specific contractual agreements or peculiar new business practices, similar to the one called *vaporware*. This practice, developed in the software market, consists of announcing the introduction of an update, a new component, a new release: the mere announcement is enough to discourage customers from switching to another product, currently perceived as better, because waiting for the upgrade is perceived as less costly than switching. It has been, allegedly, a fruitful strategy for Microsoft in the software industry and for IBM in the hardware one and it can be profitably used also by the dominant DNS root server operator. In other words, a user will not subscribe for .travel with an alternate root if ICANN says – as it actually does – it is "considering" introducing "soon" into the legacy root the same TLD.[133]

II.4.2 Interoperability issues

In this scenario and for the purpose of communication, which is the main goal of the Internet, a single network where anybody is able to reach everybody else may be essential, thus capturing all the network effects of the DNS and reaching the greatest efficiency. Yet, as said *supra*, this does not necessarily mean a single supplier. Compatibility (or *rectius* interoperability), indeed, may be a viable option, allowing the greatest variety within a common and standardized base.

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[133] For one of those announcements about the introduction of new TLDs "in 2004", http://www.icann.org/announcements/announcement-31oct03.htm, last visited on Nov. 6, 2003.

Interoperability is beneficial for consumers because it brings about a further enlargement of the network and thus a further expansion of the network externalities. Moreover, it spares consumers from having to choose one of the players taking the risk of being locked-in or stranded. Consequently interoperability would allow for competition among networks,[134] thus being beneficial also for reaching higher levels of efficiency on the supply side.

With respect to domain names, interoperability would mean to allow ICANN's competitors to access the legacy and to insert their TLDs therein. Or it could also mean to allow for more roots but making sure that the Internet community is guaranteed against the risk of instability and colliding domain names, assuring univocal resolution of domain names into IP addresses. In other words, interoperability is strictly speaking a technical issue.

Interoperability in the DNS can be reached through the "positive" action of mutual recognition of the different existing hierarchies, but also through the "negative" factual non-interference with each other. In the presence of more than one root, there are three possible scenarios:[135] full interoperability is achieved through full coordination; partial coordination is achieved when the incumbent root server refuses to recognise/not interfere with the entrant; incompatibility, due to reciprocal non-recognition or interference. I borrow these explicative tables from Milton Mueller:[136]

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[134] The networks I am referring to herein are not physical networks but the networks of relationships root server-TLD registries-registrars-registrants.

[135] See Milton Mueller, Competing Roots, cited above at footnote 98 at page 7.

[136] Id at page 6.

Table 1: Type 2 Competition – Compatibility Relations

	Origin of domain name query	
Origin of domain name assignment	**Users of Root-I**	**Users of Root-C**
Root-I	Compatible	Compatible
Root-C	Incompatible	Compatible

Table 2: Type 3 Competition – Compatibility Relations

	Origin of domain name query	
Origin of domain name assignment	**Users of Root-I**	**Users of Root-C**
Root-I	Compatible	Incompatible
Root-C	Incompatible	Compatible

Figure 3 – Root Competition

In what Mueller calls Type 2 Competition, the Root I (the incumbent) prevents full interoperability with root C (a competitor) through not recognising it or by giving rise to colliding entries. In Type 3 Competition, also the entrant Root-C introduces colliding entries and/or does not allow its users to access the Root-I database. Type 1 Competition, not showed in the tables, would be the ideal case in which each root operator has interest in being compatible with the other one.

As a matter of fact, the likelihood of occurrence of the described types of "competition" is not equal. This situation is not different from the one, described in the economic literature,[137] in which firms compete for the adoption of a standard and have to choose between compatibility and incompatibility of their respective standards. It is explained, indeed, that when competitors are similar in their size, market and technological position, they will likely choose the same strategy: either both prefer compatibility and try to reach an agreement on a single standard (so-called "Battle of the sexes"), or both prefer incompatibility and fight a standards battle (so-called "Tweedledum and Tweedledee"). However, when competitors are asymmetric,

[137] See Besen and Farrell "Choosing how to compete: Strategies and Tactics in Standardisation", in *Journal of Economics Perspectives* Vol. 8, no. 2, Spring 1994, page 117 et seq.

and one of them has a large installed base or is otherwise in a strong market position, the strategies are going to be "logically inconsistent":[138] the big player prefers incompatibility, while the small one is interested in following the other's standard (so-called "Pesky Little Brother").

In fact, it is intuitive that a big network prefers to stay incompatible, because this way it alone will benefit of the size, will exploit and internalise all the network externalities and eventually capture all the customers that want to benefit from its standard; conversely, the manager of a big network risks more in allowing others to be interoperable, because customers will then choose the network they prefer on different bases than the size, thus eliminating the feedback effect for the big network. In other word, the one who has won the competition for the market is not so keen on giving the start to the new competition within the market. This has also been formally modelled in the economic literature:[139] big existing networks will tend to be against compatibility, even when it could increase social welfare, whereas small networks will be in favour of compatibility, even when it has high social costs. The same authors[140] also show that if the costs of adapting are negligible and there are no other barriers to entry, the market can and will be a competitive one.

And indeed, in the DNS case, the observed behaviour of root operators clearly reflects the "Pesky Little Brother" form of competition: alternate roots have strong economic incentives to make themselves "compatible" with the ICANN network, bearing the costs of adapting, which are not so high: as explained above,[141] alternate roots began to work as super-sets of ICANN network, so that their subscribers can have access to that one too, and issue non colliding TLDs. Obviously, they have all the incentives for doing so: alternate roots cannot be attractive for customers if they are not given access also to the established network; moreover should they issue colliding domain names, loss of reliability and univocity is so high that users and especially ISPs will not be willing to run such a risk as a consequence of dealing with an alternate root. By contrast, ICANN's behaviour tends in the

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[138] *Id.* at page 127.

[139] Cfr. Michael Katz and Carl Shapiro "Network externalities, competition and compatibility", in *American Economic Rev.* 1985, p.425

[140] *Id.* p. 439.

[141] See above at page 27.

opposite direction, trying to obstruct the growth of the competitors, by making use of its stronger position and, as it will be discussed *infra*, by exercising market power in order to strengthen the foreclosure that derives from the network effects. The tactics at the incumbent's disposal are to some extent different from classical standards battles,[142] in particular in that there are no intellectual property rights to be invoked.[143] However, a very useful tactic available to the incumbent that wants to make itself incompatible is that of adding to the root TLDs which already exist in the database of its competitors. If this conduct (or its credible threat) takes place before the competitors have achieved a critical mass, this would likely result in the further foreclosure of the market.

In this scenario, therefore, it is crucial to pay attention to the existence of barriers to entry and especially to those which result from the strategic behaviour of the dominant firm and, from the perspective of the antitrust enforcers, to verify that no such kind of abuses is being perpetrated in order to stifle competition.

II.5 Costs of a DNS competitive structure

The logical consequence of what has been said thus far is that the artificial perpetuation of scarcity within the mainstream domain name root server can be corrected by the rise of alternate root operators that would compete with the incumbent and satisfy the excess demand. The direct effect would be increased consumer surplus and there could be an indirect reduction of costs due to the pressure on the incumbent to become more X-efficient as well as an increased pressure to innovate.

However, competition at the root level is not without costs. ICANN itself and its technical advisory boards have at various instances put forward the idea that having a unique root is necessary in order to ensure the stability of the Internet and it is the only way to assure univocal resolution of domain names, which would otherwise be impaired by the existence of those unofficial root servers.

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[142] As described by Besen and Farrell cit. in footnote 137 above.

[143] As explained supra, all the protocols and software are public domain.

The authority cited to support these claims is the RFC 2826 of May 2000, issued by the Internet Architecture Board (IAB).[144] This document testifies that "it is not technically feasible for there to be more than one root in the public DNS."[145] As it has been effectively argued,[146] this statement is at the least imprecise: alternate roots do exist, thus showing that technically it is in fact perfectly feasible.[147] It is a different issue that of whether they *should* be allowed to exist.

The core of the discussion is the need for coordination in order to assure the uniqueness of domain names, principle that is valid at every level of the DNS hierarchy. It is undeniable that if there is more than one supplier at the top of the DNS, the transaction costs will inevitably increase: it could be necessary to introduce new software and protocols to allow coordination among multiple suppliers; it could be necessary to educate users (or ISPs) to the existence of alternative root operators among which they can choose. It is a situation that resembles the one that followed the introduction of competition for fixed phone calls: when new companies started offering telephone services, users were given the possibility of carrier selection, by dialling a code prior to the phone number, and later also of carrier pre-selection that required no further code to access the services of the new entrants.

Whilst it is not possible at this stage to precisely determine their actual size and incidence, it is important to ask whether these costs are enough to claim that single-supplier organization of the market is the most efficient one. In presence of such costs it is necessary to weigh them with the benefits that will derive from the introduction of competition at the root level.

It seems likely that currently, the risk of abuses and of losses because of the existence of a dominant operator with market power is greater than the risk

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144 Available at http://www.rfc-archive.org/getrfc.php?rfc=2826 last visited on 24 October 2004. IAB website (www.iab.org) reports that "The IAB is chartered both as a committee of the Internet Engineering Task Force (IETF) and as an advisory body of the Internet Society (ISOC). Its responsibilities include architectural oversight of IETF activities, Internet Standards Process oversight and appeal, and the appointment of the RFC Editor".

145 *Id.*, page 1.

146 M. Mueller "Competing roots" cited above at footnote 98 at page 10.

147 Interestingly, it seems that China has issued TLDs in Chinese characters (so called internationalised TLDs) corresponding to .com, .net and .cn without going through ICANN. See http://www.i-dns.net/newsroom/news/GE050301-01.html.en via www.icannwatch.org.

of incompatibility caused by alternate roots.[148] This would make the case for the introduction of competition in the root server layer of the domain names industry.

[148] Milton Mueller, "Competing DNS Roots", ITU Strategy and Policy Unit Lunch Seminar, Geneva 23 November 2001.

III. ANTITRUST AND THE INTERNET GOVERNANCE

So far I have commented on the main characteristics of the Domain Name System from an economic perspective. The previous analysis will serve as a basis for proceeding with an analysis of the existence and abuse of antitrust dominance in this industry.

However, the study I will conduct will not be carried out in a legislative vacuum: I will refer to the antitrust law in force in the European Union, and more precisely to the articles contained in the First Section of Chapter one of Title IV of the Treaty of Rome (articles 81 to 86), Rules on Competition applying to undertakings. The purpose of the following sections is not, and cannot be, that of giving an extensive and complete presentation of the European Community antitrust rules applicable to undertakings,[149] but rather the methodological one of pointing out the main principles and rules that will be applied in the subsequent sections to the facts and the behaviour occurring in the industry concerned. My purpose is, in other words, to describe how I will proceed about the assessment of the anticompetitive nature of certain types of behaviour. In particular, this work is going to investigate the possibility that abuses of dominant position, within the meaning of EC antitrust law, be committed in the industry of domain names. In order to establish this, a number of steps must be undertaken and I am hereby going to briefly introduce which ones. A last section will summarise the main precedents in which antitrust rules and the management of the DNS have already entered in contact and in conflict. In doing this, I will have to go beyond the EC boundaries, since the relevant precedents come from another jurisdiction, namely the American one. It is nevertheless interesting to have knowledge of what has been decided (or not decided) there, in order to have the complete picture and, moreover, competition problems in this kind of industry usually have a global character.

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[149] There is very qualified literature on the subject, such as, *inter alia*, Korah AN INTRODUCTORY GUIDE TO EC COMPETITION LAW AND PRACTICE, Oxford Hart Pub. 2004, Whish COMPETITION LAW, Lexis Nexis 2003, Jones-Sufrin EC COMPETITION LAW, Oxford UP 2004, Bellamy & Child EUROPEAN COMMUNITY LAW OF COMPETITION, Sweet & Maxwell 2001, Faull and Nikpay The EC LAW OF COMPETITION, Oxford UP, 1999, Frignani-Waelbroek DISCIPLINA DELLA CONCORRENZA NELLA CE, UTET Torino, 1996.

III.1 Abuses of dominance

In European Community Law, abuses of dominance are prohibited as incompatible with the common market:[150] if a firm holds a dominant position in the common market or in a substantial part of it and carries out certain abusive behaviour (of which the article of the Treaty provides some examples), such undertaking commits an antitrust offence and is therefore susceptible of being ordered to cease and desist from that conduct and of being fined; if necessary, structural or behavioural remedies are possible.[151]

It is clear that this norm is concerned with market structure, but only in so far as it allows the undertaking in question to perform a conduct that is capable to produce adverse effects on competition. In order to verify if such kind of behaviour is being perpetrated, a number of operations must be carried on and the first one is to properly define the market(s) we are talking about.

(i) The definition of the relevant market for antitrust purposes is a peculiar concept[152] and, in the European Commission's words, is to be seen as primarily an analytical tool "to identify in a systematic way the competitive constraints that the undertakings involved face."[153] It is an economic exercise

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[150] Article 82 of the EC Treaty:

> "Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States.
>
> Such abuse may, in particular, consist in:
>
> (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
>
> (b) limiting production, markets or technical development to the prejudice of consumers;
>
> (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
>
> (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts".

[151] Structural remedies are now mentioned explicitly by article 7 of the so-called Modernisation Regulation no. 1/2003, in OJ 2003 L 1/1.

[152] And it is to be distinguished from market definitions conducted for other commercial or economic purposes.

[153] Commission Notice on the definition of the relevant market for the purposes of Community competition law, in OJ C 372 of 9/12/1997.

that helps to identify which other goods or services exert a competitive pressure with respect to a certain undertaking. It is but the first step in order to establish whether an undertaking is capable of exercising market power, which constitutes the actual concern of competition enforcers.

A remarkable economic definition of the relevant market is that of "a market which is worth monopolising". According to the recurring case law of the European Courts,[154] the relevant market comprises all goods or services that consumers see as interchangeable by reason of products' characteristics, prices and intended use, taking into account also the conditions of competition and the structure of supply and demand. The relevant market has also a geographical dimension, covering the area in which conditions of competition are sufficiently homogeneous and can be distinguished by neighbouring areas where conditions of competition differ substantially.[155]

For European competition law purposes, the most important thing to be assessed is demand-side substitutability,[156] although also supply-side substitutability might be taken into consideration, while potential competition is considered only at a later stage, when assessing the actual competitive constraints within a defined relevant market.[157]

In order to proceed with market definition, a test that is commonly applied and recommended by the Commission's Notice is the test of the hypothetical monopolist or SSNIP test,[158] according to which the relevant market is the smallest set of products for which a small but significant and stable price increase (generally about 5-10%) would be profitable.

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[154] Besides the Commission Notice above mentioned. See Case C-333/94 P, Tetra Pak v Commission [1996] ECR I-5951, paragraph 13, Case 31/80 L'Oréal [1980] ECR 3775, paragraph 25, Case 322/81, Michelin v Commission [1983] ECR 3461, paragraph 37, Case C-62/86, AkzoChemie v Commission [1991] ECR I-3359, Case T-504/93, Tiercé Ladbroke v Commission [1997] ECR II-923, paragraph 81, T-65/96, Kish Glass v Commission [2000] ECR II-1885, paragraph 62, Case C-475/99, Ambulanz Glöckner and Landkreis Südwestpfalz, [2001] ECR I-8089, paragraph 33.

[155] It can be added that the relevant market may also have a temporal dimension.

[156] Although some economists might disagree with this statement.

[157] The Notice distinguishes supply-side substitutability from potential competition basing itself on the time needed by undertakings producing different things in order to revert their manufacturing processes to the realization of a product capable to compete with the one under consideration.

[158] SSNIP stands for Small but Significant and Non-Transitory Increase in Price.

This fascinating way of defining the relevant market has several renowned advantages, for example, that it allows a definition of relevant market based on actual data rather than speculation on preferences; but it has nevertheless some limits,[159] especially with respect to its application in article 82 cases. I am referring here to the situation in which the market is already monopolized or protected by entry barriers and an increase in the current price would not be profitable for reasons other than constraints from competing products. In such conditions, indeed, this fact would not imply that the scope of market definition has to be enlarged but that the price is already influenced by the exercise of market power.[160] Obviously, even in such cases, the dominant firm will not be able to raise its prices indefinitely. Yet the constraints will not come from products present in the same market but by other factors influencing the shape of the demand curve for that product. In other words, at some point, consumers will eventually allocate their resources differently, towards a completely different product. The question is then where we draw the boundary of the relevant market.

This is where a more qualitative evaluation of the market definition may come back in, despite having been criticised in the past.[161] Indeed, as mentioned, the approach of the European Courts has been to give relevance also to elements other than price and namely to the physical characteristics and the intended use of the product. In *Bronner*,[162] for instance, the European Court of Justice restated that "the market for the product or service in question comprises all the products or services which in view of their

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[159] Besides the fact that it requires the *actual* knowledge of a substantial amount of observed data on prices, quantities and elasticities in the industry concerned.

[160] This problem is commonly known as the "cellophane fallacy" after an American antitrust case in which the judge did not recognise the issue and considered cellophane in the same market with aluminium and other packaging materials. It is often argued that using estimates of the competitive price instead of the actual market price would avoid the distortion. However, it is true that estimating the level of the competitive price is not an easy task for regulators and antitrust enforcers and that's precisely the reason why it is left to the market to work it out. Moreover if antitrust enforcers already knew that prices are above the competitive level, it would mean that they are already aware of the existence of a situation of dominance.

[161] See, for instance Van den Bergh R. – Camesasca P. European Competition Law and Economics, Intersentia 2001, p. 103.

[162] Judgment of 26 November 1998, in Case C-7/97, Oscar Bronner GmbH Co. KG v Mediaprint [1998] ECR I-7791 at paragraph 33.

characteristics are particularly suited to satisfy constant needs and are only to a limited extent interchangeable with other products or services".

It can be finally remarked that, even more caution is to be paid to the application of a test such as the SSNIP to new technology industries, like the one I am examining, where sole reliance on pricing issues is not the point, competition being often not based (or at least not predominantly) on prices.

(ii) Once the market has been defined, as said, this is only the first step that is necessary in order to identify the presence of market power that a dominant firm is capable to exert.

In legal terms, an undertaking is considered to be dominant in a certain relevant market when it enjoys a position of economic strength enabling it to "prevent effective competition being maintained on the relevant market" by allowing it "to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers."[163] A firm in a dominant position can thus "determine or have an appreciable influence on the conditions under which competition […] will develop."[164]

The first indicator that an undertaking might be capable of exercising market power is that such undertaking holds a large market share; this, according to the case law of the European courts, is in itself an evidence of the existence of a dominant position.[165] In economic terms, market shares are not significant in themselves as they are not suitable to give full account of the competitive constraints coming from prospective entrants; what matters then is to assess the existence of barriers to entry, able to prevent potential competitors from "disciplining" the behaviour of the enterprise with the big

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[163] Judgment of the European Court of Justice United Brands v. Commission, case 27/76 in 1978 ECR p. 207, paragraph 65. The definition has since been repeated in subsequent judgments. See also, recently, the Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic telecommunications network and services, OJ 2002/C 165/6 at paragraph 5. The Framework Directive, moreover, seems to equate the notion of dominance to the one of market power. See art 14 of Directive 2002/21/EC of the European Parliament and the Council of 7 March 2002 on a common regulatory framework for electronic communications network and services, OJ L 108 of 24 March 2002, p. 33.

[164] See judgment Hoffmann La Roche Case 85/76, in 1979 ECR 461, paragraph 39.

[165] Case C-62/86, AKZO v Commission, [1991] ECR I-3359, paragraph 60; Case T-228/97, Irish Sugar v Commission, [1999] ECR II-2969, paragraph 70, Case Hoffmann La-Roche v Commission cit at the previous footnote, paragraph 41, Case T-139/98, AAMS v Commission [2001] ECR II-3413, paragraph 51.

market share. The discussion over what can be considered – from a sound economic perspective – a barrier to entry is long and will not be repeated here.[166] Also from the legal point of view, there is no generally accepted definition of barriers to entry, but rather a case-by-case approach. In the course of the subsequent analysis, I will take into account, where necessary, both so-called absolute barriers and strategic advantages of the firm that happened to be the first to enter the market. The expression "absolute barriers" usually refers to exclusive rights granted by law or to privileged access to necessary inputs or, sometimes, to economies of scale. Strategic advantages, refers to a more complicated – and debated – category that includes first mover advantages, sunk costs or conduct capable of deterring entry or raising rivals' costs.[167]

Finally, it is worth noting that the frequently restricted definition of market power as the ability to *raise price* above the current level without suffering from the constraints of competitors[168] would give only a somehow limited view of the phenomenon. As Stiglitz put it "*Monopoly and competition differ in far more significant ways than just simply the price charged.*"[169] In presence of a monopoly, consumers are denied the choice of alternative suppliers. The very possibility of such choice could be seen in itself already as an added value of a competitive market structure.[170] Yet, even leaving this claim aside, the monopolist will invest in keeping its market share, in locking-in its customers, in erecting more entry barriers, thus preventing the competitive process from selecting the best products, bringing along increased efficiency and favouring the emergence of increasingly better products. If the monopolist is able to erect or reinforce entry barriers, or to raise rivals' costs, such barriers will protect its position, not the superiority of the monopolist's products.

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[166] See the extensive literature on the subject and review thereof, such as Bain BARRIERS TO NEW COMPETITION, 1956, Stigler THE ORGANIZATION OF INDUSTRY, 1968. See also Bishop and Walker, Economics of EC Competition Law, Sweet & Maxwell 2002.

[167] See, Bishop & Walker, cit. above at footnote 166.

[168] This idea is consistent with the reliance on the above mentioned SSNIP test and suffers from the same defects. See above at page 51 *et seq.*

[169] Stiglitz 1977, p.429

[170] See for instance, Leland, Heyne E. "Quality choice and competition", in 67 *American Econ. Rev.* Mar 1977, p.127.

Therefore, in the markets involving domain names which I am going to analyse, I will not rely solely on consequences on prices, as they will not, in many cases, give a full sense of the loss that consumers might suffer from the behaviour of dominant firm or of a monopolist.

(iii) If it has been established that a firm holds a dominant position in the relevant market, the European Courts have stated that under European Competition Law, such undertaking has a special responsibility, "not to allow its conduct to impair genuine undistorted competition on the common market".[171] Even more so, when the undertaking concerned holds a position that can be called of super-dominance.[172]

However, Article 82 is a difficult antitrust tool and it is not always clear what a dominant firm should or should not do and what kind of behaviour may ultimately be qualified as abuse. In this respect, it is illustrative to observe different jurisdiction adopting different approaches to similar problems[173] or to see the different positions taken in high profile cases, such as the recent Microsoft case[174] dealt with in the European and in the American system; the reactions to the (stricter) European decision are also significant in this respect. In fact, the European Commission itself, in recognising the difficulties

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[171] See Case T-219/99, British Airways v Commission, nyp; Case 322/81 Michelin v Commission cit., paragraph 57, and Case T-228/97 Irish Sugar v Commission [1999] ECR II-2969, paragraph 112.

[172] This situation occurs when the undertaking has very high market shares approaching a situation of monopoly.

[173] For example, at the same time the European authorities issue the Microsoft Decision and the IMS judgment (Judgment of 29 April 2004, Case C-418/01, nyp). dealing with the general conditions at which a dominant firm must give access to its proprietary facility, the American Supreme Court states different principles in Trinko (Verizon Communications Inc. v. Law offices of Curtis V. Trinko, LLP (02-682), 305 f.3d 89): that the monopolist's incentives to innovate must be protected; that it has a right to refuse to deal, albeit "qualified"; that the exceptions to this rights (i.e. obligations to give access) are very restricted; that the risk that antitrust enforcers will make mistakes in the application of the rule and will chill the conduct that antitrust law is designed to preserve, is too big and it will overcome the expected benefits.

[174] On the American case, see http://www.usdoj.gov/atr/cases/ms_index.htm and http://www.dcd.uscourts.gov/microsoft-2001.html; the EU case is numbered COMP/C-3/37.792, culminated in the decision no. 900 of 24 march 2004, hereinafter the "Microsoft Decision".

embedded in article 82, decided to start a process of discussion and revision to clarify the application of such rule.[175]

What black letter law says is that abuses are prohibited, whereas the mere possession of a position of dominance is in itself legal. What constitutes an abuse is not explicitly defined, but for a non exhaustive list of examples. Therefore, in the European legal system, the concept of abuse is a judge-made one: a dominant undertaking's behaviour which is such as "to influence the structure of a certain market" and which through "methods" for competing that are "different from those governing normal competition" hinders the maintenance of the degree of existing competition in the market or its growth.[176] Subsequent case law has elaborated that the market(s) referred to in this definition, on which the negative effects are going to be produced, need(s) not be the same market where the undertaking in question is dominant.[177]

From this open ended definition, what follows is that a specific conduct will not be deemed abusive if it is the expression of "competition on the merits". Despite this straightforward statement, in practice, however, in many instances it proved to be very difficult to distinguish abusive behaviour from competition on the merits, especially when the market structure is already altered by the presence of a dominant undertaking.

As said, some examples of what constitutes an abuse are given directly in the Treaty,[178] but nonetheless most types of actions (or refusals of an action) oblige antitrust enforcers to a great effort in order to get through some complicated and multifaceted forms of behaviour and find out whether they are abusive.

By way of categorisation, it is common to distinguish exploitative from exclusionary abuses and price from non price abuses. In the present work, pricing issues will actually not be the focus of the discussion, as the types of

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175 See P. Lowe, "DG Competition's review of the policy on abuse of dominance", in International Antitrust Law and Policy – Fordham Corporate Law Institute 2003, ch. 10, page 163.

176 This concept is taken from the ECJ judgment in Hoffman-La Roche, case 85/76 in 1979 ECR, 461, at paragraph 91.

177 See *Commercial Solvents*, case 6-7/73 in 1974 ECR, p. 223; *Tetra Pak II*, case C-333/94 P in 1996 ECR I-5951; *British Airways*, case T-219/99, judgement of 17.12.2003, not yet published.

178 See above at footnote 150.

conduct that constitute the source of concerns in the markets for domain names are not primarily based on pricing, although some have argued that prices, although already at a low level, could be even lowered by introducing effective competition.[179] With respect to the other distinction mentioned above, while exploitative abuses are those directly harming consumers, exclusionary ones operate only in an indirect fashion, because they actually harm the competition process itself; therefore prohibiting such abuses is tantamount to protecting the competitive structure of a market.[180] Exclusionary abuses are particularly important for the purposes of this work and will come into consideration when dealing with the particular cases discussed.[181]

However, a conduct may still not be considered abusive and thus escape the prohibition if it restricts competition but is "objectively justified". A plausible justification, according to the European practice, could be the fact that the conduct constitutes legitimate business behaviour; the ECJ has admitted that, in principle, legitimate public interest, like health or consumer protection may be accepted too.[182] In any case, even if these justifications are present, the dominant firm's action must also be proportionate, meaning that that firm cannot exceed what is necessary to pursue such legitimate interests and in a way that does not restrain competition more than necessary.[183] However, there is no general framework that we can rely upon in order to find out what constitutes an objective justification of behaviour that might seem abusive and, once again, it will be for a factual analysis of the particular case to solve the issue.

(iv) A last point to be emphasized with respect to abuses of dominance and that might be of relevance for the analysis that will follow, is the fact that

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[179] See for instance, former ICANN At-large Director Karl Auerbach's post on http://cavebear.com/cbblog-archives/000115.html last visited on 1 September 2004.

[180] See judgments Continental Can, case 6/72 in 1973 ECR, p. 215; Hoffmann-La Roche cit.; Michelin cit..

[181] See infra in Chapter IV.

[182] Although the justification was not considered present in the specific case. See for instance the Judgment of the Court of First Instance of 12 December 1991 Hilti, Case T-30/89, in *ECR 1991 Page II-01439*.

[183] See Bellamy & Child European Community law of competition, cit. page 717, Whish COMPETITION LAW, cit. p. 207 *et seq.*, Jones-Sufrin EC COMPETITION LAW, cit. at page 251 *et seq.*.

also public undertakings or undertakings entrusted with special or exclusive rights are subject to the prohibition of abusive behaviour. The EC Treaty, indeed, at Article 86, paragraph 2, provides that antitrust rules will not apply to undertakings entrusted with the operation of services of "general economic interest" or operating in the market in a position of legal monopoly only in so far that it is necessary to perform "the particular tasks assigned to them" and provided that the development of interstate trade is not affected in such a way that is contrary to the European Community interest. According to the European Courts' case law, a state cannot introduce a legislation according to which the undertaking in question will be inevitably led to commit an abuse prohibited by Article 82;[184] an undertaking will not be excused because the abuse is encouraged by national law.[185] In general, it is deemed that article 86, paragraph 2 is to be interpreted strictly[186] and that any restriction should satisfy the principle of proportionality in order to be allowed.[187]

Article 86 is not a stand alone provision and is always to be applied in conjunction with another provision of the Treaty. In the cases that will be discussed later on, it may be appropriate to apply Article 86 in conjunction with the prohibition of abuses of dominant position, in particular when considering the national registry operators within the European Union.[188]

III.2 Antitrust and new technologies

Before proceeding, however, it is worth noting that it has sometimes been argued[189] that antitrust has become obsolete and is not suitable anymore for facing the challenges posed by new technologies and network industries. The point is not that all the problems have been solved and perfect

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[184] Judgment of 23 April 1991, Hoefner and Elser, case C-41/90, ECR 1991 page I-1979.

[185] See Judgment of the Court of 16 November 1977 SA G.B.-INNO-B.M. v (ATAB), case 13-77, in *ECR1977 Page 02115*.

[186] See R. Whish, cit. at footnote 149, at page 231.

[187] *Ibidem*.

[188] See infra in Chapter V.

[189] Especially after the beginning of the US Microsoft case. See for instance David B. Kopel, Antitrust after Microsoft: The Obsolescence of Antitrust in the Digital Era, Heartland Institute, February 2001.

competition is in place. The opposite is true: big firms gain control over large shares of the market, single proprietary standards are adopted, tying and bundling are largely applied, allegedly, for the benefit of consumers and innovation.

Yet, the opinion goes, these industries are such that no monopoly is lasting, that if a monopoly lasts it is because it is the best, and that in any event, should a better standard arise, it will eventually replace the existing dominant one. Therefore, antitrust enforcers should rather refrain from intervening, because they cannot do any better and are likely to do much harm, especially to the innovation process.[190]

Also in the recent Microsoft case,[191] the company under investigation by the European Commission, claimed that in Information Technology industries competition works differently from "old economy" industries and that the notion of dominance changes accordingly: a sort of "technological revolution" will inevitably make it possible that a new product will completely replace the one that is dominant now.[192]

However, as the Commission has convincingly argued on that occasion, without denying the specificities of a particular IT industry, even if a dominant position might be limited in time, this does not limit *at present* the market power of the dominant undertaking, if the threat is not sufficiently identifiable.[193] Therefore, the potential for abuses still exists.

Such kind of discussion, aiming at shrinking the scope for antitrust intervention, seems to come back at every controversial case of antitrust enforcement.[194] However, if the controversy or the alleged failure lies in the application of the wrong rule or rather in the wrong application of the rule,

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[190] It has been said (see, for instance, Lind – Muysert "Innovation and competition Policy: Challenges for the new Millennium", in ECLR 2003, p. 88) that this can be defined as a world of "Schumpeterian dynamic competition", after the famous economist that considered monopoly superior to competition when it comes to stimulate innovation, because only monopolistic profits can attract the necessary investments in innovation.

[191] Cit. above at footnote 174.

[192] See the Microsoft Decision at section 5.2.1.4, paragraph 465 *et seq.*.

[193] *ibidem*.

[194] As, for instance, the structural remedies proposed in the US Microsoft case or the remedies imposed in the European Microsoft case. See Liebowitz and Margolies Winners, Losers & Microsoft, Ed. Independent Institute 1999.

without taking due care of the peculiar characters of the market or of the industry concerned, this calls for a better antitrust enforcement, not really for abandoning competition law *tout court*.

New technology markets are certainly peculiar under many respects. If this kind of markets are characterised, as they normally are, by on-going technological progress, then currently high barriers to entry do not necessarily mean protection from potential competition and thus they do not necessarily leave room for abuses of dominance. In these cases, the evaluation should be based on a more forward rather than backward-looking approach. However, equally peculiar characteristics of these markets might instead lead to the reinforcement of some other barriers to entry, as it might be the case of powerful network effects.[195]

Therefore, these peculiarities seem to be not enough to send antitrust law to retirement and have not been proved to be sufficient to eliminate the possibilities of abuses nor dominant firms' incentives to exploit such position whenever possible. Successful companies, of the "old" and of the "new" economy, must not be punished if their behaviour creates efficiencies and benefits consumers.[196] However, when those firms' actions have anticompetitive implications, there could still be the need for an intervention by antitrust enforcers.[197] As it has been authoritatively observed, reliance on the market mechanisms in order to achieve the optimal (most efficient) outcome does not equate unconditional faith that such mechanisms will properly work if there is no will to preserve them from being abused.[198]

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[195] As the Commission noted in the decision MCI WorldCom/Sprint at para. 194 (decision of 28 June 2000, case no. COMP/M.1741 in OJ of 18.11.2003 L 300/1) "given that innovation will play an increasingly important role in the future development of the Internet, a dominant player with a large customer base will be best placed to set the pace for such innovation. The technology used by the dominant operator to provide a given service would become a de *facto* standard since all customers of this dominant undertaking would have adopted the technology chosen by the incumbent".

[196] And, one could argue, does not conflict with other values that policy makers might pursue, such as market integration within the European Union.

[197] The basic tenet that what's good for a successful company need not always equate what's good for the economy is not denied by fast innovation or by network effects.

[198] Mario Monti "European Competition Policy for the 21st Century", in International Antitrust Law and policy, Fordham Corp. Law Institute 2001, p. 257.

To be sure, it has been reported[199] that it is common understanding that competition policy has yet a role to play in the new economy, but it must be applied with caution and flexibility, principle that seems sensible for any antitrust case indeed.

When it comes to the unilateral behaviour of a dominant firm, the usefulness and the appropriateness of competition law instruments is even more questioned on the ground that competition law ought to protect competition and not smaller and inefficient competitors.[200] It has been sometimes argued that only increases in prices or restrictions of output by a dominant undertaking reduce consumers' surplus and can thus justify the intervention of antitrust enforcers. In any other case, the conduct of such firm can only be pro-competitive.[201] This would rule out the possibility of challenging behaviour such as foreclosure or raising rival's costs or leverage.

It is to be noted, however, that this very strict interpretation of the concept of abusive conduct does not take into account that in situations where the dominant firm dictates the standard and competitors can only follow, exclusionary conduct can be an extremely fruitful strategy in the short run to preserve the dominance and in the long run to discourage competitors from even trying to develop new products. In the next Chapter, I will try to show how this is relevant in the domain names industry.

III.3 DNS and antitrust in Court

After the brief presentation of the legal framework in the previous sections, it is useful to give account also of the main judicial precedents in which the DNS has been faced with competition law. As said before, there are,

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[199] See the CRA Report for the UK Office for Fair Trade "Innovation and Competition Policy", available at www.oft.gov.uk/News/Publications, last visited on 24 September 2004 and the presentation that its authors Lind and Muysert published in the ECLR, op. cit. *supra* at footnote 190.

[200] A great amount of criticism restating this principle came from the United Stated, after some remarkable European antitrust decisions, like the prohibition of the GE/Honeywell merger (Commission decision of 3 July 2001, case COMP/M.2220) and the Microsoft decision (cited in footnote 191 above).

[201] *Tertium non datur*, said judge Bork: "No third possibility suggests itself". See E. Fox, "We protect Competition, you Protect Competitors", in World Competition, 2003, 2, p. 149.

unfortunately, no European precedents in the field; however some interesting issues have been discussed in the context of American antitrust law. Indeed, in a number of occasions, American courts[202] have been asked to deal with this kind of issues. Unfortunately they have so far decided mainly on the basis of procedural grounds, thus leaving us with no statement on the merits. The beginning of the litigation era coincided, obviously, with the time when it became clear that domain names were a fruitful business.

At that time, the whole domain names industry had a vertically integrated monopolistic structure, with NSI/Verisign being the only registry operator for all the so-called open gTLDs (.com, .net, .org).[203] It used to be also the only registrar, since no separation had yet been made between these two functions.

As said before, the promotion of a more competitive structure of the market for domain names was indeed one of ICANN's first actions, task that was fulfilled through the introduction of the aforementioned distinction between registrars and registries and of the shared registry system.[204]

Before ICANN came into existence, however, a number of companies[205] wishing to enter the lucrative domain name business began challenging NSI's monopoly bringing antitrust suits against it in several American district courts. In most cases, the plaintiffs addressed the issue that a refusal to add new TLDs to the root file was illegal because it perpetuated NSI's monopoly in the supply of domain names services and thus violated the US antitrust law, the Sherman Act.[206] In no case, however, did courts find the defendant liable of antitrust offences, on the grounds that it was merely

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[202] No such cases were brought to court elsewhere, as far as I could verify. Some complaints had been filed also with the European Commission, but no decision has come out nor did they end up in court. See below in Chapter V for more details.

[203] The other four gTLDs (.edu, .gov, .mil and .int) were not available to the public or commercial use, being reserved to specific entities. See above in Chapter I.

[204] See above at page 15.

[205] To be true, also the European Commission had expressed similar concerns. See Chapter V below.

[206] The Sherman Act of 1890 prohibits at Section 1 conspiracies in restraint of trade and at Section 2 acts or attempts of monopolization. These two provisions are loosely, though not completely, correspondent to the prohibition of restrictive agreements and of abuses of dominance under EC Competition Law. See Phillip E. Areeda & Herbert Hovenkamp, Antitrust Law, 2d ed. 2000.

executing the actions compelled by the US government.[207] In one of these cases,[208] the court dismissed the claims because the plaintiffs lacked the quality of competitors, necessary for moving the claim. In all these cases, having so ruled, courts did not need to adjudicate upon whether the conduct in question was in fact violating antitrust rules.

The reorganisation of the management of the legacy root and of the DNS through the creation of ICANN was expected to remove the kind of problems raised in those trials. However, antitrust litigations did not stop, directed to both NSI's successor Verisign and to ICANN itself. In particular, given its relatively short existence, ICANN has collected a good number of lawsuits.[209] With respect to antitrust claims, the most prominent ones were originated by Verisign's introduction of certain highly questionable services or attempt thereof. These lawsuits were brought against both Verisign and ICANN and one of them opposes ICANN and Verisign to each other.

Verisign sued ICANN in February 2004[210] for violation of antitrust law and for a number of contractual claims. The complaint was initially dismissed without prejudice in order to allow Verisign to supplement its incomplete antitrust claims. And so it did, but the antitrust claims were irrevocably dismissed at the end of August 2004, for Verisign having failed to properly allege, in the court's view, an antitrust violation. The trial will now continue before a state court for the contractual claims.[211]

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[207] For citation of these cases and for a more detailed analysis thereof, see M. Froomkin and M. Lemley "ICANN and antitrust", cit. above at footnote 127at page 124 *et seq*.

[208] US DC Circuit Court of Appeal, Thomas v. Network Solutions, decided 14 May 1999, No. 98-5502.

[209] ICANN keeps a webpage where litigation documents are posted: http://www.icann.org/general/litigation.htm, last visited on 20 October 2004.

[210] US District Court, Central District of California Verisign v. ICANN, complaint filed on 26 February 2004. Most documents related to this and to the other trials against ICANN are available at the webpage cited in the previous footnote.

[211] In the United States, Sherman Act claims are under federal jurisdiction, while contractual claims must be brought in state courts. If there is federal jurisdiction, the Federal Court shall retain the whole case. That is why the case was brought to the federal court of the Central District of California, but when the antitrust claim has been dismissed, the rest of the case can be adjudicated by a state court. Verisign has indeed filed the complaint for breach of contract before the California State Court on 27 August 2004. ICANN responded invoking the arbitration clause contained in the registry agreement and filed a request for arbitration. See announcement of 12 November 2004 at http://www.icann.org/announcements/announcement-12nov04-2.htm.

The core of this lawsuit was not a monopolisation issue (what in the EU we would call an abusive behaviour of a dominant firm), but onspiracy: Verisign had alleged that it had been victim of a conspiracy orchestrated by ICANN and "its members"[212] that are in fact Verisign's competitors. The object of this conspiracy was allegedly that of preventing Verisign from deploying its new services (in particular the so-called Waiting List Service and SiteFinder service)[213] and thus putting it at a competitive disadvantage with respect to other registry operators or other companies offering similar services. ICANN's response had been that (i) it does not compete with Verisign and (ii) that its decisions are exclusively referable to its Board, which is not controlled by any of its constituencies, including the alleged competitors of Verisign. Accordingly, the elements of a conspiracy are lacking and ICANN's actions affecting Verisign's cannot, in ICANN's view, raise any antitrust issue.[214]

In dismissing the antitrust claims, the Court ruled that Verisign had failed to allege that the co-conspirators constituted or controlled the majority of the ICANN board, which, ultimately, held power for the final decisions concerning Verisign's services.[215] The Court remarked that "there is nothing inherently conspiratorial in a bottom-up policy development process that considers or even solicits inputs from advisory bodies" where the Board is not required to accept the advisory body's position and is not controlled by it.[216] It is not fully clear whether with this statement the Court has conclusively stated that there is no cartel within ICANN or simply that more factual allegations are needed in order to move such a claim.

As for the cases in which ICANN and Verisign stand on the same side, they were initiated by a number of domain name ICANN-accredited

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[212] *Sic* in the Complaint at page 24, paragraph 85.

[213] See the discussion of these two services *infra* at page 85.

[214] See ICANN's Motion to dismiss. Later ICANN has filed a cross-complaint in which it claims Verisign has breached the Registry agreement and therefore the contract should be terminated. See announcement at http://www.icann.org/announcements/announcement-12nov04-2.htm.

[215] US District Court, Central District of California, Verisign v. ICANN "Order dismissing Antitrust claim with prejudice" of 26 August 2004, at page 15.

[216] *Ibidem* at page 10 *et seq.*

registrars[217] or registrants,[218] charging Verisign with unlawful tying of otherwise separate services and attempt of monopolization of adjacent markets, by leveraging the monopolistic position in the market of .com and .net registration services. At the time of writing, both cases are still *sub iudice*, but it is already apparent that the plaintiffs have had some difficulties in alleging the constitutive elements of an illegal tying agreement. However, it is noteworthy that the lack of antitrust standing for ICANN was not proposed as a defence and that nothing in the court order suggests that ICANN could be immune from antitrust liability, as it used to be with NSI. If the plaintiffs will be able to allege sufficient factual basis for their claims, there might eventually be a ruling on the merits of the actions, i.e. the lawfulness of the conduct pursuant to (American) competition law.

[217] US District Court, Central District of California Registersite.com (assumed name for a group of accredited registrars) v. ICANN and Verisign, complaint filed on 27 February 2004.

[218] First Amended and Supplemental Class Action Complaint Syncalot, Inc. et al. vs. Verisign, ICANN and the US Department of Commerce of 12 January 2004. In addition one similar action was initiated in Canada to complain about the deployment of the WLS (Pool.com v. ICANN) and one, opposing ICANN to some registrars was settled in December 2003 (Dotster and GoDaddy v. ICANN).

IV. INVESTIGATING THE RELEVANT MARKETS

IV.1 Introduction

After having described the main characteristics of the industry as a whole and the legislative framework of the analysis, it is necessary now to go more in detail in the observation of the different segments of the market of domain names, in order to identify possible competition concerns.

As shown in Figure 1 above,[219] the structure of the Domain Names industry can be represented by three levels.

At the bottom, there is the level where retailers sell registrations to end users wishing to obtain a domain name under a certain TLD.

The second level is the one where the registration procedure actually takes place: here both the product on offer and all the players are determined by ICANN that selects the TLDs to be put on the market, the operator who should maintain each gTLD registry and the registrars "accredited" to actually assign a domain name.

At the top of the tree, there is the level of the operation of the root server. The controller of the root server supplies access to the root to registries of TLDs.

Before proceeding with analysing each of these levels, there are some preliminary remarks to be made. The separation among these three layers looks easy to explain from the demand side substitutability point of view: domain names demanded for identification of a website are quite a different product than the management of the registry of any of the TLDs and than the management of the whole root server. It is easy to say that the degree of substitutability of the registration of yahoo.com with the management of the whole .com registry or the take-over of ICANN is quite negligible.

To be true, if we take into account also supply side substitutability, it may seem not too difficult for a registry operator to enter the business of supplying registration services to end users or for ICANN to start selling (second level) domain names instead of allocating just TLDs. Indeed, until not

[219] See above at page 7.

so long ago, the same company (NSI/Verisign) was both the registry manager for .com, .net and org as well as the main registrar for those gTLDs.[220]

However, this is not the case in the real world, where switching from one business to the other is currently made impossible by the very organisation of the DNS hierarchy; in fact, a kind of contractual barriers has been erected in order to keep the segments separate: pursuant to a number of agreements entered into by the US government, ICANN and Verisign, ICANN is prevented from entering the downstream markets[221] and NSI/Verisign has been forced to divest its registrar business. Moreover, becoming registry or registrar depends on ICANN's decision and thus no entry in the market is possible by operators' autonomous choices.

In the following sections the three levels will be discussed, introducing the main antitrust concerns that can arise (or have actually arisen) with respect to each of them.

However, a caveat must be indicated here. As said before, in total, there are 257 registries: 14 gTLDs and 243 ccTLDs. However, the statuses of ccTLD and of gTLD registries are quite different. ccTLD registries, especially the ones pre-existing to the creation of ICANN, still enjoy some degree of independence from ICANN, although from the technical point of view they rely on the same hierarchy and moreover new or re-delegated ccTLD registries are bound by special registry agreements.

On the contrary, gTLDs are "regulated" by several agreements and totally subject to ICANN's authority and hierarchy. Therefore, most part of the following analysis, although in some points generaliseable, will concern mainly gTLDs and the noteworthy peculiarities of ccTLDs will be commented explicitly, where necessary.

IV.2 The bottom layer

As mentioned before, at the bottom of the pyramid there is a market where domain name registration services are supplied to end users. End users

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[220] See later in the chapter.

[221] The proviso of point V.D.1 of the MoU (see above at footnote 41) prohibits ICANN from acting "as domain name Registry or Registrar or IP address Registry in competition with entities affected by the plan developed under this Agreement".

can be individuals as well as businesses interested in getting an "address" for their web site. In this market, the suppliers are of two kinds: those who can directly assign a domain name, being entities qualified as "ICANN accredited registrars",[222] and simple retailers that offer intermediation services towards the accredited registrars. The activity carried out by the registrars is that of performing the actual registration of the domain name sought by the user into the registry database, plus all marketing, billing and other related activities. The domain name registration service has rather unique characteristics that make it non interchangeable with other services. To some extent, some limited demand-side substitutability comes from the service that combines the offer of webspace with a third level domain address (www.zop.splinder.com) or an address as subdirectory (www.geocities.com/name). However, these options are attractive rather for personal pages and are often precluded to commercial users.

At this level, the structure of the market seems quite dispersed, with respect to the type of suppliers and customers and the range and price of products offered. Quite often the registration is offered in a bundle with Internet connection or with hosting services or with the maintenance of a web site on behalf of the client.

With respect to the accredited registrars, while some of them are only dealing as wholesalers,[223] others sell both to resellers and to individuals[224] and, generally, the latter are also ISPs offering Internet access, web hosting[225] or the whole management of a website.[226]

Leaving aside the simple retailers for which there are no data available, with respect to the number of domain name registrations placed through accredited registrars, the following chart gives an idea of the current registrars' situation and shows also that NSI that used to be the only registrar, while still being the largest operator, has seen its position in the market declining overtime:

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[222] The list of accredited registrars is available on ICANN's website at http://www.icann.org/registrars/accredited-list.html, last visited on 27 April 2004.

[223] Like the Danish http://www.ascio.com, the Spanish http://www.nicline.com etc.

[224] Like the British http://www.nominate.com, the Italian Register.it (http://we.register.it/) and so on.

[225] Like http://www.register.com/ or http://www.tuonome.it/.

[226] Like Register.it mentioned at footnote 224.

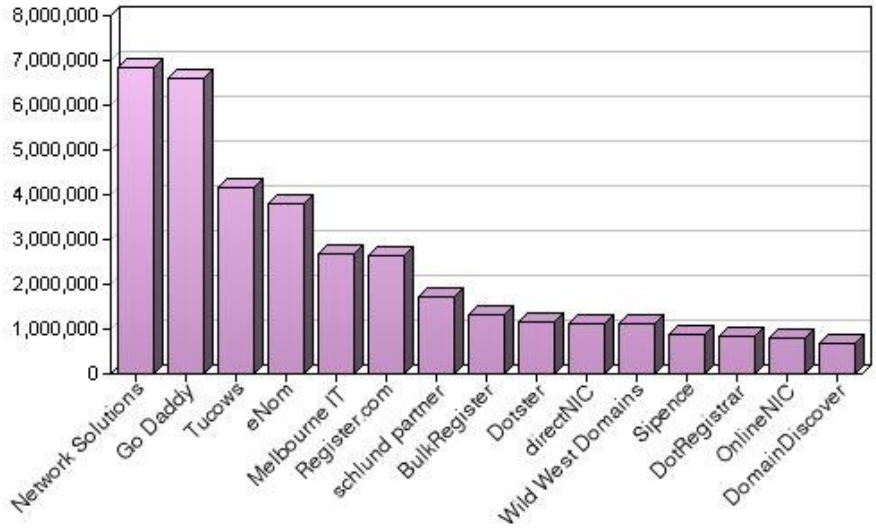

Figure 4 – Largest domain name registrars[227]

[227] Source: http://www.webhosting.info/registrars/top-registrars/global/ last visited on 27 April 2005.

With respect to the prices charged, they vary across the spectrum of registrars and retailers; moreover, in a forest of bundles of different services, it is quite difficult to assess, as external observers, the share of the price and the cost components exclusively attributable to the activity of domain names sale.[228]

It is nevertheless possible to single out some recurrences that are relevant for the purposes of this work:

- the request for a higher price for .com addresses occurs with a certain frequency. This "rent" is an understandable consequence of present and past policy choices (i.e. of keeping the resource as scarce) which have also influenced consumers' (i.e. those who demand registration) preferences;
- the basic (wholesale) costs for registration of domain names are the same for every registrar (and indirectly to their retailers): the price to be paid for obtaining a name in a certain registry is top-down imposed to registrars, since it is fixed upstream in the agreement between ICANN and each registry;
- decisions taken upstream influence the range of products and other non-price conditions offered by the companies operating in this segment: a Uniform Dispute Resolution Procedure (UDRP) is imposed by ICANN in order to get accredited; if a registry operator is strong enough to introduce in the market some new features, this could result in a change in the market structure also downstream and thus in the elimination of suppliers or products.[229]

Since the main features of this layer of the domain name industry are influenced or determined at the upstream level, it does not seem indispensable at this stage to conclusively investigate the retail segment. By contrast, much more attention needs to be paid to the upstream layers. This will be the subject of the subsequent sections.

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[228] When the undertakings in question offer domain names together with other Internet services and products, they face costs referable to the whole activity as e-companies, like the rent of parts of the cable backbone from the backbone suppliers, the maintenance of a website and so on, so that it is difficult to identify which part of those are costs exclusively referable to the registering activity.

[229] I am referring to the Sitefinder and to the Waiting List Service cases. On these, see *below* at page 85.

IV.3 Registries and Registrars

The middle layer has a peculiar structure. In this segment, there are a number of accredited registrars and 257 registries, i.e. as many as the entries in the root file database. However, I will refer specifically only to the gTLDs registries and among them, specifically to the unrestricted ones (.com, .net, .org, .info, .biz),[230] although the same reasoning remains, in principle, valid for all registries.

As explained earlier,[231] these entities with such confusingly similar names perform a separate but interconnected function: each *registry* maintains the database of a specific TLD, *registrars* "sell" entries into the databases to those wishing to have a domain name for their website.

The current system can be roughly characterized as the wholesale segment in a selective distribution system, but it also has odd features. Here, the registrars assign to a client a domain name in one of the registries, say the .com database, and pay fees pursuant to the registry-registrar agreement[232] to the manager of the registry for each assigned domain name. However, both registries and registrars are respectively selected and accredited by ICANN.

Almost all registry operators have been selected through a burdensome and not very transparent process. A different story, as already explained,[233] applies to NSI/Verisign, that has not been selected by ICANN but existed even before the creation of ICANN and was the original contractor for the management of the DNS. NSI was subsequently "assimilated" by forcing it to enter into a Registry agreement with ICANN which contains peculiar features that reflect the special position of the company.

What is true for all registries, however, is that there can be only one operator for each TLD and that each operator charges the same (wholesale)

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[230] .biz is actually a restricted TLD because it can be assigned only to businesses; however, for the purposes of this work it can be considered as unrestricted, being businesses the main purchasers of domain names.

[231] At page 7.

[232] This is a part of the registry-ICANN agreement. See the page on ICANN's website with the list of all registry agreements http://www.icann.org/registries/agreements.htm, last visited on 7 September 2004.

[233] See above at page 15 *et seq.*

price for every domain name assigned;[234] this price is fixed by the respective ICANN registry agreements.[235]

For what concerns registrars, they also have to fulfil the requirements established by ICANN in order to be "accredited"[236] and they are all subject to the same contractual conditions as indicated in the Registrar Accreditation Agreement (RAA);[237] among the most important ones, the acceptance of the Uniform Dispute Resolution Policy (UDRP), a set of rules to solve controversies concerning the attribution of domain names.

The main aim of the registries-registrars structure just described was the creation of competition for offering registration services to end-users; the effects of such structure in the retail layer of the market have been described in the previous section.[238] Competition in the registry services was meant to be introduced, as explained already,[239] through the creation of new gTLDs.

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[234] To be sure, some discounts are explicitly foreseen in some registry agreement and some occasional "promotional sales" have been notified to ICANN.

[235] See, for instance, the provisions concerning fees contained in the.com registry agreement at http://www.icann.org/tlds/agreements/verisign/registry-agmt-appg-com-16apr01.htm last visited on 7.9.2004, or in the .info agreement at http://www.icann.org/tlds/agreements/info/registry-agmt-appg-20jan04.htm last visited on 7.9.2004. Similar provisions are contained in the registry agreements for every gTLD, although with some specificities as for the sponsored ones.

[236] The requirements and the process are described at http://www.icann.org/registrars/accreditation.htm last visited on 7.9.2004.

[237] The Registrar Accreditation Agreement (RAA) states that "registrar shall comply, in such operations, with all ICANN-adopted Policies insofar as they:

> i. relate to one or more of the following: (A) issues for which uniform or coordinated resolution is reasonably necessary to facilitate interoperability, technical reliability and/or stable operation of the Internet or domain-name system, (B) registrar policies reasonably necessary to implement Consensus Policies relating to the Registry, or (C) resolution of disputes regarding the registration of domain names (as opposed to the use of such domain names)".

It is interesting to note, however, that the RAA specifies immediately after the previous indent: "[insofar as those policies] do not unreasonably restrict competition".

The accreditation agreement for traditional gTLDs is available at http://www.icann.org/registrars/ra-agreement-10nov99.htm, last visited on 7.9.2004; while the new agreement applying to all gTLDs, including the new ones, is at http://www.icann.org/registrars/ra-agreement-17may01.htm last visited on 7.9.2004.

[238] See page 67 *et seq.*.

[239] See supra in Chapter I.

Indeed since November 2000, more registry operators entered the scene. Nevertheless, since there can be only one operator for each TLD, it is not so clear if we can conclude that registries of different TLDs, generic and country-code, are actually competing with each other. This will be investigated in the following sub-section.

IV.3.1 Can .com be considered a separate relevant market?

To begin with, the "*summa divisio*" amongst TLDs is the one between gTLDs and ccTLDs. Verisign has stated, though not demonstrated, in its lawsuits that they are all competing with one another and that therefore the market comprises all TLDs indifferently.[240]

There are not sufficient data available to quantitatively verify such claim, through the calculation of elasticities;[241] however, from a qualitative point of view it is not very convincing. It is true that a domain name can resolve anywhere in the world regardless of its top level and that the corresponding website can therefore be reached by Internet users worldwide. This could in principle imply that it is indifferent for a registrant to choose one TLD or another. Nevertheless, this is just the "technical" part of the story and does not explain the features of the demand and supply of domain names under any particular TLD.

If we look at the characteristics of the demand, we see that the type of customers that ask for a registration under a particular ccTLD, does not overlap with those asking for a different TLD, whether country-code or generic, and those who wish to have a generic TLD find of no use to obtain instead a name in a TLD which identifies a particular country. This is because the function, the intended use of each ccTLD is seen as specific to itself: a national TLD is attractive only to those who want to do business or otherwise have an interest in a certain country.[242] Users know that a website under their

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[240] See complaint cited above at footnote 210 at page 6.

[241] And I would moreover leave the relative researches to professional economists.

[242] The United States represent a sort of exception, as the TLD .us has not acquired the same meaning as other ccTLDs have for the nationals of that country. This is the consequence of the fact that since the origins of the Domain Name System, American companies always preferred generic TLDs that would characterise the company's field of activity, and thus disregarded the "national" TLD.

national TLD is likely to be addressed specifically to them, will probably be in their own language, will reflect the local preferences and customs for advertising, marketing, prices and so on. This is true no matter if the company in question is from the same country or if it is a foreign one. A national TLD is thus not considered useful to reach customers who do not belong to that country, nor to reach a global audience. In fact, it often happens that companies operating in a number of countries wish to obtain a domain name under the TLD of each of them, on top of a generic TLD, that will fulfil the function of reaching American or undetermined customers,[243] or to identify the "portal" website through which accessing the national ones.

This implies that each country-code TLD fulfils a different need and thus they are, from the demand-side perspective, not substitute to one another, but to some extent, though not necessarily, complementary.

The characteristics of the supply of the two types of TLDs are also different. First of all, the prices at which domain names under national TLDs are sold appear to be unrelated with what happens with other TLDs and may differ substantially.[244] This fact suggests that there is no real pressure on prices coming from the managers of other TLD registries. Second, also the contractual conditions at which domain names are sold differ across ccTLDs. To cite an example which will be discussed later,[245] some ccTLD registry operators consider potential customers to be only those who have an interest in doing business in or have a link with the country in question. In some cases, the websites of the registry manager is just in the language of that country[246] or has a rough and brief English version which does not mirror the whole content of the website.[247]

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[243] For example, www.amazon.com sells books (and other things) worldwide, but www.amazon.fr is specifically addressed to French users and www.amazon.de to German ones, although in principle anybody can order books through any such website, provided that they speak the relevant language, that are willing to pay in the local currency and so on.

[244] The price charged for a SLD by the registry of the .es (Spain) ccTLD is currently 110 Euros; the one charged by the German registry is 116 Euro; in Italy the price is about 6 euros, including VAT. The wholesale price for a .com is currently 6 USD.

[245] In Chapter V.

[246] Like the Slovak http://www.sk-nic.sk.

[247] Like the Spanish Registry Esnic https://www.nic.es/ingles/index.html last visited on 3 November 2004.

All these indicators suggest that a single ccTLD represents a market on its own and is immune from competitive constraints coming from other national registries as well as from gTLDs. Therefore, ccTLDs cannot be put in the same market as gTLDs.

The following step is to look only at gTLDs as a category, and they might seem to compete with each other, at least to some extent. However, we can immediately observe a high degree of product differentiation amongst them. By reason of historical development, marketing, or specific policy choice,[248] each gTLD has come to identify a certain category of websites and therefore to be addressed to different categories of customers (i.e. registrants). A first distinction should then be made among gTLDs because not all of them appear to be substitutable with any other one. First of all, the sponsored TLDs are not offered or purchased as an alternative to the non sponsored ones,[249] as well as the restricted ones are foreclosed to registration by those individuals or entities not belonging to the prescribed category.

This implies that, first of all, the "old" reserved TLDs such as .mil, .edu, .gov, .int are to be considered as separated and not competing with the others. Secondly, the same can be predicated with respect to some of the new ones, namely .museum, .coop and .aero, each of them having a limited and generally predetermined reach. Of the remaining ones, .name is also addressed to a specific category of consumers, because it is targeted to physical persons, .pro is open only to liberal professions and .biz is restricted only to business.

It could be argued that the conclusion that restricted and sponsored TLDs are not competing with unrestricted ones cannot necessarily be predicated the other way around: it could, indeed, be reasonably stated that .com, .net, .org or .info can be considered, at the present stage, as a viable alternative by an airline or a museum or a cooperative that are not happy with the policies or the service provided by their own dedicated registry. Therefore the operators of such registries may face some competitive constraints from the open gTLDs. However, this is likely to change depending on the success of the dedicated TLD as a sort of brand name: if .museum becomes an actual

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[248] In particular with respect to the new gTLDs: all but one were restricted to certain categories of registrant, with the consequent necessity of assessing the actual fulfilment of the envisaged criteria by each applicant.

[249] For the distinction between sponsored and non sponsored TLDs, introduced by ICANN in occasion of the introduction of the new gTLDs in 2000, see above in Chapter I.

categorizer instead of a simple identifier for museum institutions, the alternative offered by .net or .info will not exercise competitive constraints any longer.

In sum, if any form of competition can be imagined, it has to take place between the so called non restricted gTLDs: .com, .org, .net and .info. However, I consider .biz, although restricted, as assimilable to the previously mentioned four: at the end of the day, the main stakeholders for the purposes of this discussion are commercial businesses, i.e. those to which the .biz is open for registration. However, its inclusion would not have a major influence on the substance of what will follow: for reasons related to its launch and arguably precisely because of its "restricted" character, its introduction was not particularly successful.[250]

If we adopt this definition of the relevant market and we move on to the calculation of market shares,[251] then the figures indicate that the operator of the .com is by far the dominant one with a share of over 72,5% of all registrations, followed by the operator of the .net with about 11,3%, that happens to actually be the same undertaking and therefore the two separate market shares shall be summed up to almost 84%.

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[250] See the Evaluation Report of the Introduction of the new gTLDs, completed in July 2004 and available as from 31 August 2004 on ICANN's website at www.icann.org/announcements/announcement-31aug04.htm.

[251] Market shares are here calculated with respect to the number of domain names registered under each TLD. The figures, as well as the chart and the table below are taken from http://www.webhosting.info/registries/global_stats/, last visited on 28 April 2005.

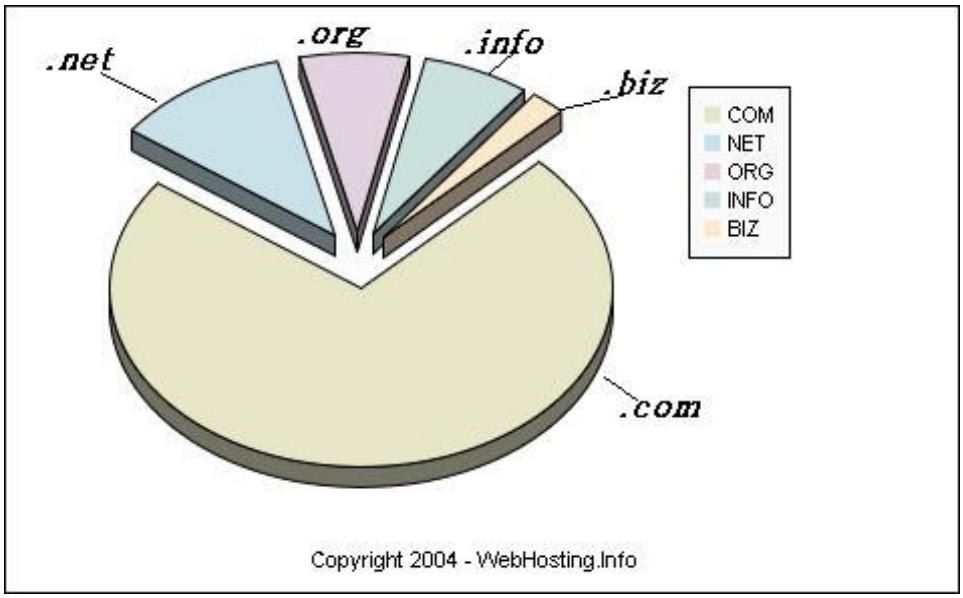

Figure 5 – Chart representing the number of second level domains registered under the unrestricted gTLDs (including also .biz)

Rank	TLD	Total Domains	Net Gain (one week)	Share
1	COM	36,315,179	241,153	72.5087 %
2	NET	5,666,051	27,775	11.3131 %
3	ORG	3,512,672	12,759	7.3044 %
4	INFO	3,453,076	9,428	6.8946 %
5	BIZ	1,136,936	2,469	2.2701 %

Table 1 – Number of second level domains registered under the unrestricted gTLDs (including also .biz)[252]

[252] Source: http://www.webhosting.info.

It is interesting to have a look also at the growth of each TLD. The tables below indicate the weekly growth. The figures of the last month show that all registries are growing but in absolute figures the .com is still the one in which the net increase in the total number of domain names is the highest and is even higher than the increase in the other four altogether. To be sure, the starting of the operations of .info has had an impact on the share of the other TLDs and at some point, thanks to a promotion (four month free registration) combined with an arguable speculation of some registrars,[253] the number of registrations under .info jumped up considerably. However, it clearly appears from Table 3 that .info exceptional growth of last autumn is largely over.

Weeks	Total Domains .com	Gain	Loss	Net
04/25/05	36,315,179	530,154	289,001	241,153
04/18/05	36,074,026	452,378	280,307	172,071
04/11/05	35,901,955	467,368	281,127	186,241
04/04/05	35,715,714	458,691	274,781	183,910
03/28/05	35,531,804	439,652	263,972	175,680
03/21/05	35,356,124	483,023	232,282	250,741

Table 2 Total domain names for .com

[253] See http://www.domaines.info/english_article.php?art_id=7 last visited on 9 November 2004. However, it is fair to predict the likely occurrence of a large drop in the number of domain names .info, particularly when the speculative registrations will not be for free anymore.

Weeks	Total Domains .info	Gain	Loss	Net
04/25/05	3,453,076	15,367	5,939	9,428
04/18/05	3,443,648	15,985	7,006	8,979
04/11/05	3,434,669	13,879	6,513	7,366
04/04/05	3,427,303	13,925	6,114	7,811
03/28/05	3,419,492	13,565	5,148	8,417
03/21/05	3,411,075	14,310	6,147	8,163

Table 3 Total Domain Names for .info[254]

[254] Source: http://www.webhosting.info/registries/reports/domains/INFO last visited on 27 April 2005

These figures and the absence of potential new entrants and of constraints from existing "competitors", should be enough to support the finding of dominance.[255]

However, what has been shown so far does not necessarily represent the relevant market. If we go more in depth, we see that this market definition is not completely satisfactory.

As it has been pointed out, the controversial selection process for enlargement of the root zone through the introduction of the new gTLDs did not lead to the emergence of competitors, as "winners were all established, politically connected insiders"[256] with the effect that the new gTLDs registry operators are either already existing operators or their affiliates.

Apart from this kind of considerations, it is important to further note that among the unrestricted gTLDs, there is no complete substitutability. It is rather common sense that for a business it is much more valuable to register a .com than a .info or a .org, for example. The much awaited .biz proved to be not a real alternative: despite the big expectations when it was created that it would replicate the success of the .com, as a matter of fact it is among the least popular gTLDs with only a rather small number of registrations.

There are no actual data available about the cross-elasticity of the demand for different TLDs; however if I undertook a SSNIP-test exercise, I would expect that a small but significant increase in the price for a registration under the .com would not bring about a massive migration towards a different TLD, since the .com has acquired a particular "semantic" value for commercial users of the Internet. However, there are two kinds of objections to the very possibility of going along the SSNIP-test path: on the one hand, this statement might not make sense at all, for competition in this segment of the domain names market is arguably not based on prices; on the other hand, it is even difficult to be verified in a direct way, since the price that registries charge to registrars is fixed in the registry agreement they enter into with ICANN.[257]

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[255] Very high market shares could, according to the judicial precedents quoted above at footnote 165, already be considered in the European legal system as sufficient to establish dominance.

[256] See M. Mueller Ruling the Root, cit. above at footnote 23, at page 203.

[257] See, for instance Appendix F to the .com registry agreement at Section 5.1 or Appendix G to the .info registry agreement and so on; all Agreements are available on

In (arguably to some extent) similar cases, where the price is not freely determined but subject to regulation, the European Commission's Guidelines on market analysis within the regulatory framework for telecommunications[258] suggest[259] that such regulated price is presumed to be the competitive one. This presumption might be workable for other regulated industries but in the domain names case suffice it to remark that there is no regulatory authority that has fixed such price, but two private undertakings and there is no reasonable indication that in fixing the price they made an evaluation of the actual costs and reasonable profit so that we can assume that it is set at the competitive level.

Perhaps, we could take some indirect evidence from the observation of what happens in the downstream market for second level domains assigned to end users: in this market, as said before, for what concerns prospective customers the price charged for a .com is on average higher than the one for any other gTLD.[260]

However, the problem is further complicated, for those who are already customers of a given TLD. Even if the domain name subscription expires every year, users of a domain name under a certain gTLD are actually locked-in: while it is not so costly for a user to change the registrar or the ISP,[261] once a registrant has started its business using a second level domain under a particular gTLD, the costs of transferring the website to a domain name under a different gTLD are very high and make it unlikely that such company will change its DN because of an increase in price or a change in the quality or the characteristics of the services provided by the registry manager. In practice, companies carrying out business over the Internet invest a lot in promoting the address of their websites in order to get customers to remember it. The same promotional effort also aims at building a reputation around that domain name. Moreover, they often make agreement or pay to have other

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ICANN's website at http://www.icann.org/registries/agreements.htm last visited on 8 December 2004.

[258] Cited above, in footnote 163.

[259] At para. 42.

[260] This conclusion is drawn from direct survey of the websites of a sample of ICANN-accredited registrars.

[261] The "portability" of the domain name across different registrars is actually one of the features introduced by ICANN along with the shared registry system mentioned above at page 15.

websites (or search engines) linking to their web site through their domain name. In this situation, which is a very common one, if a company wants to switch to a new TLD, provided that the name is still available,[262] it will face the costs of advertising *ex novo* the change, in order to make sure to have the same reach; it will have to inform all partner websites and the search engines about the change to make sure that they link to the new address; it will not be sure that customers who have added the address of the company in their "favorites"[263] will promptly update them.[264]

Moreover, if we take a particular category of customers, namely companies, commercial users, which represent the highest share of registrants in the .com registry,[265] it has become crucial for them to obtain visibility under the .com "brand"; for this category of customers the demand of a .com is rather rigid and therefore the existence of other TLDs seems to have little impact.

This added value of .com is a rent that the .com registry is enjoying because of the development of the Internet and of the DNS and a number of factors contributed to this outcome: first, at the time when it clearly appeared that there was an explosion of commercial interests over the Internet, .com was the only TLD available for "e-companies" and it took several years before the introduction of new gTLDs to the root was actually implemented and the new gTLDs became operational. Moreover, when they were finally introduced, as explained above, only one was unrestricted and able to wield some kind of attractiveness.

The creation of a reasonably high number of new unrestricted gTLDs could help eliminating this rent, but ICANN has already indicated that if any

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[262] Were it not available, our hypothetical company might have paid also for what is called a waiting list service, in order to be informed when the name would be available because of expiration of the previous registration.

[263] The "favorites" or "bookmarks" folder is the location on users' PCs where the links to websites users are interested in are stored for future visits, as shortcuts to reach the same website without having to type the whole address again.

[264] The Commission guidelines on market analysis within the regulatory framework for electronic telecommunications makes this point at paragraph 50, (the guidelines are cited above at footnote 163): substantial switching costs can constitute a sufficient reason not to include two products in the same relevant market, although it is acknowledged that it can also be an indicator to be considered in the subsequent stage of assessing the market power of the undertaking concerned.

[265] .com is in principle a TLD specifically destined to commercial users.

new TLD will be introduced, they will be of the sponsored type,[266] which will not particularly enlarge the offer.

Given the status quo, other existing or potential TLDs seem not to exercise effective competitive constraints on the behaviour of the .com manager, commercial users' demand for a .com is quite rigid and it does not seem likely that the situation is going to change in the short-medium run. This, in turn, makes the registrars' demand quite rigid: registrars, the customers in this market, but also those who ultimately deal with registry operators, find it crucial to include in their offer to end users the possibility of registering a domain name in the .com registry.

In sum, although in the absence of extensive empirical data or estimates of the cross-elasticity to support such conclusion, there reasonably seem to be enough indications to conclude that the .com represents a separate relevant product market.[267]

When it comes to the geographic market, it does not seem questionable that it is to be identified as the global one: conditions of sales and of competition are sufficiently homogeneous all over the world and the demand can come from anywhere at the same or comparable costs.

IV.3.2 Assessment of dominance

If the above conclusions are correct, it follows that the manager of the .com registry enjoys a position of monopoly – arguably a natural one[268] – since

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[266] See, for instance the Strategy: Introduction of new generic Top-Level Domains, published on 30 September 2004 at http://www.icann.org/tlds/new-gtld-strategy.pdf

[267] A recent report of the OECD ("Generic top level domain names: market development and allocation issues" DSTI/ICCP/TISP(2004)2/FINAL of 13 July 2004) reaches also the conclusion that each TLD operator is able to exercise some degree of monopoly power. However, it is to be mentioned that Milton Mueller has a different opinion: although no estimates of elasticity are available, this author interprets the anecdotal evidence in the sense of suggesting that users view TLDs as substitutable. See Mueller, "Towards an economics of the domain names system", cited at footnote 45, paragraph 4.2.2, at page 25. I believe the conclusion is different, for the reasons explained in the text.

[268] See Bourgeois – Crémer – Marsal, A Study on the Internet Corporation of Assigned Names and Numbers – College of Europe 14 November 2003, at page 72 *et seq.*.

by the technical architecture of the DNS there must be only one operator for each TLD registry.[269]

In this situation, it should have become also evident from what has been said above, that the undertaking operating the registry has in fact the ability of deciding its behaviour without suffering from actual or potential competition: nobody can enter the market, as there can be only one operator for the .com;[270] other gTLDs are not able to suggest themselves as alternatives and many customers are locked in.[271]

To be sure, one could argue that in fact there is not much to compete on in such segment of the market: as mentioned, prices are decided upstream, provision of registry services is subject to ICANN's approval or supervision,[272] and other features of competition on quality are prevented, like the imposition of a uniform procedure for dispute resolution, the famous UDRP referred to above.[273] However, an undertaking in such position still has the special responsibility, referred to above, "not to allow its conduct to impair genuine undistorted competition on the common market."[274] In particular, in this case, there is still some room for leveraging the monopolistic power exercised on a gTLD, in order to exclude competitors in related markets.

The possible objection that the position of the .com manager might change overtime and its market power might diminish in an undefined future, does not take into account the fact that this company has the potential to

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[269] It could be added, for more precision, that this holds only as long as we can have only one .com registry, the one in the ICANN system. If we allowed more competing roots then there could be more operators for different .com registries and then the possibility of a competition amongst them could be evaluated.

[270] As said before, as long as there is only one ICANN's .com.

[271] It is worth to just mention that the dominance of the company in question is referred to the global market and that implies, *a fortiori*, that it is held over the whole European Union, which satisfies the requirement for the application of EC competition law that the dominant position be held in a substantial part of the common market.

[272] See for instance the .com registry agreement at Sections 1.1 and 1.9.

[273] See at page 15. Also the UDRP is made obligatory by a clause in the registrar accreditation agreement. See Section 3.8.

[274] See above at footnote 171 and accompanying text.

commit abuses at present,[275] maybe in order to extend or just to protect its dominance. The following section will, in fact, explore this possibility.

IV.3.3 Hypotheses of abusive behaviour

Given such peculiar structure of this segment of the market, it is not surprising that some concerns from, *inter alia*, the competition law point of view would arise. There were, in particular, some actions of the undertaking that I have indicated as dominant, i.e. Verisign, that have been subject to heavy criticism and that, indeed, raise some doubts as to their compatibility with antitrust rules.

One first type of behaviour that was the source of substantial concern, stems from one of the most questionable (and questioned) characteristics of this segment of the market but has, in fact, lost much of its anticompetitive potential. It has been explained already[276] that Verisign used to be the sole registry operator for .com and .net as well as the largest registrar. This kind of "vertical integration" between the registry and the registrar business was the source of serious competitive concerns, as the registry operator could favour its own registrar at the expenses of competing registrars: it could share information on registration; it could give preferential access to registration or connected services to its own registrar. For example, Verisign could favour its registrar in the access to the information concerning expired domain names, in order to precede any other registrar in the "race" for re-selling a valuable domain name that had not been confirmed by the previous owner.[277]

However, precisely because of this anticompetitive potential, Verisign was ultimately required to divest itself of its registrar business (NSI), event that finally occurred in November 2003.[278] It has been also argued that the fact that Verisign retained a 15% equity interest in NSI could still leave room for

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[275] Analogously to what has been observed by the European Commission in the Microsoft case. See above at footnote 191 and accompanying text.

[276] See above at page 13 *et seq.*

[277] I will come back to the market for expired domain names in the subsection which follows.

[278] See the announcement made by Verisign of the completion of the sale http://www.verisign.com/verisign-inc/news-and-events/news-archive/us-news-2003/page_200312181054389.html last visited on 30 September 2004.

preferential treatment;[279] yet for the time being no actions have been taken in this sense and therefore the main antitrust concerns with respect to this type of conduct have to be put on hold.

Apart from the problems previously arising from the vertical integration, there are two other examples of questionable conduct, which it is worth talking about: the introduction of the so-called Waiting List Service (WLS) and of the SiteFinder Service. For their analysis, another quick glance at a few more technical aspects is needed.

IV.3.3.1 The "Waiting List Service" and the "SiteFinder" service

(a) What is referred to as "Waiting List Service" (WLS) is a service that concerns reassignment of expired domain names. There is, indeed, a high number of domain names whose registration is not renewed and that become available to new registrants. According to some registrars' estimates, the number of domain names expiring each month is of approximately 800.000; moreover, approximately 20.000 are in fact cancelled from the registry each day.[280] The interest in obtaining information as for which domain names expire is so high that it has given rise to a profitable related market: many registrars, indeed, have started offering to potential registrants a service of backordering, in the framework of various business models. Some registrars offer a sort of "monitoring" service in exchange of an annual fee, but with no guarantee as for the actual acquisition of the domain name; others offer monitoring but charge a registration fee only in the case the name is eventually registered to the customer; other registrars organise a kind of auction in case there are multiple reservations for the same name. Yet, no registrar can guarantee to its customer the actual registration: once a domain names becomes available, it is a matter of "first come, first served" to decide who will

[279] See Registersite Complaint cit. above at footnote 217, at paragraphs 4.87.

[280] See Registersite Complaint cit. above at footnote 217, at paragraphs 4.37 and 4.46. These two values stem from the fact that expired domain names are not immediately erased and put back to the market but benefit from a "grace period" and a "redemption period" during which the registrant can still re-obtain its domain name, usually at a higher fee. Once even these two periods have elapsed, the domain name is put in a pool of names to be erased (Batch Delete) and only after the cancellation, it becomes available and will be assigned to the first who will ask for it.

get it; therefore, if there are more companies trying to register a certain name, only the fastest will get it for its customer.[281]

At some point, also Verisign decided to offer a similar kind of service. However, its service was different in the respect that Verisign wanted to offer it in its position as registry and not as registrar: Verisign would "sell" to registrars so-called WLS subscriptions for an annual fee of 24 USD; registrars would buy them on behalf of their customers interested in obtaining a certain expired domain name. If and when the domain name became available, Verisign would inform the WLS subscriber and this latter would be assigned the domain name. In other words, there will be no need for the services currently offered to customers and only the WLS subscriber will in fact have the possibility to obtain the domain name, if and when it expires. This also implies that, differently from what currently happens, it will become necessary for registrars (and therefore to their customers) to pass through Verisign and its system, and to pay the price accordingly, in order to obtain both the information on the expiring registration and the domain name itself.

Verisign claims this is an improvement, as it will eliminate the waste of resources of the race to the registration, where many users pay to check the availability of a domain name without being sure to finally have it assigned. Opponents, on the other hand, claim that WLS is itself a waste of resources since subscribers are required to pay much more than they do under the current system and in any case there will be no certainty about actually obtaining the desired domain name as it is not sure that the current owner will let it expire: according to their estimates, only a 23% of currently registered domain names in .com and .net are eventually dropped by the assignees and only a 5% figure represents the expired domain names with a certain value.[282] According to the registrars, therefore, in the vast majority of cases, to pay for a WLS subscription is useless, and thus wasteful.

To be precise, Verisign did not introduce its WLS directly and unilaterally, but first proposed it to ICANN in December 2001, in order to get its approval. The process of obtaining such approval through the ICANN complex decision making, took a considerable amount of time: the approval

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[281] Or for itself, for that matter: it might be a profitable business for a registrar to first become the assignee of a domain name which it deems very valuable and then resell it for a higher price.

[282] Complaint Registersite at paragraphs 4.79 and 4.83.

was finally given in March 2004[283] and was subject to a number of conditions, so that Verisign eventually sued ICANN for a number of contractual and antitrust claims, as reported above.[284] Whether this approval was actually necessary is a question currently *sub iudice*; however, technically speaking, Verisign could probably have started offering this service also unilaterally.

(b) The other service mentioned above, i.e. SiteFinder, was indeed introduced unilaterally by Verisign in September 2003.[285] In order to understand the functioning of this tool, I should refer again to the way domain names resolve into IP addresses, as it has been explained in more detail *supra*:[286] extremely simplifying, when the user's request of a domain name matches a domain name registered into the .com database, the .com registry gives the user the IP address of the owner of the domain so that he or she can reach the corresponding website. Conversely, when the domain name typed in the address bar of the browser does not correspond to any entry of the .com database, the user receives the information, according to the protocols and standards of the Internet, that there is no such domain name.[287]

SiteFinder exploits this feature: through the insertion of a "wildcard" in the two registries concerned, any wrongly typed domain name would not cause a "not found" response, but a redirection to a page set up by Verisign itself suggesting to the user other domain names he or she might have "really" wanted.

The very meaning of this is that with wildcard and redirection at work, every non existing domain name (misspelling or typos of famous assigned

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[283] During the ICANN meeting in Rome in March 2004. See the "Resolutions Adopted at Rome ICANN Board Meeting" available at http://www.icann.org/minutes/rome-resolutions-06mar04.htm last visited on 8 December 2004.

[284] See above at page 62 *et seq.*

[285] See http://new.icannwatch.org/articles/03/09/15/1730233.shtml last visited on Sept. 29, 2003 and http://bertola.eu.org/toblog/?p=35 (in Italian), last visited on Oct. 30, 2003.

[286] At page 8 *et seq.*.

[287] NXDOMAIN ("no such domain") is the technical expression in the language of BIND, the DNS software.

domains and all those domain names still free), do resolve[288] to a website managed by Verisign, i.e. the .com and .net registries operator.

The consequences of the use of this system by a registry operator, and moreover the *biggest* registry, are the attainment of both relevant economic and non economic advantages and at the same time a threat to the stability of the Internet,[289] that gave rise to a lot of criticism[290] – and in a few cases to lawsuits[291] – by competitors, users, academics and by ICANN itself.[292] Following this pressure, Verisign decided to temporarily suspend the service.[293] To date, SiteFinder has not been re-activated, however, it is likely that Verisign is waiting for the outcome of its lawsuit against ICANN before the state court of California,[294] hoping to be authorised to re-launch it without having to wait for ICANN's approval.

The main claim against SiteFinder is that of hijacking misspelled and unassigned domain names to gain unfair anticompetitive advantages. First of all, the redirection to a web page managed by the registry itself is the source of interesting revenues: the page provided by SiteFinder contained "sponsored" links to suggested websites, meaning that the owners of those websites were willing to pay in order to benefit from the flow of Internet users ending up on the SiteFinder page because of typos or queries of wrong domain names.[295]

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[288] In other words, a query for a non existing or misspelled domain name obtains in response a website as if such domain name existed. How domain names "resolve" has been explained supra in Chapter I.

[289] See the document published by the Internet Architecture Board at http://www.iab.org/documents/docs/2003-09-20-dns-wildcards.html, last visited on Sept. 25, 2003.

[290] See, for instance, http://biz.yahoo.com/prnews/030922/lam075_1.html, last visited on Sept. 25, 2003; http://reuters.com/printerFriendlyPopup.jhtml?type=internetNews&storyID=3471297, last visited on Sept. 25, 2003.

[291] See above at page 64 *et seq.*

[292] See, for instance the webpages cited in footnote 285 and also www.icann.org/announcements/advisory-19sep03.htm, last visited on Sept. 25, 2003.

[293] "Sitefinder is just napping" at http://www.icannwatch.org/article.pl?sid=03/10/16/1247217&mode=thread, last visited on Nov. 17, 2003.

[294] See above at page 62 *et seq.*

[295] It has been reported that the revenue for Verisign when a user clicks to a link of a sponsor are about $150 millions annually, as estimated by Verisign (reported by http://biz.yahoo.com/prnews/030922/lam075_1.html, last visited on Sept. 25, 2003).

The same practice, the use of misspelled domain names (called "typosquatting") by non authorized registrants, has often been banned for being against trademark law and unfair competition law.[296]

Furthermore, SiteFinder constitutes a powerful tool to monitor the frequency with which a particular domain name is typed; this constitute a very valuable information because it allows for an estimate of the potential visibility and "guessability" of that domain name and therefore of its value on the market.

From the technical point of view, SiteFinder interfered with the operation of a number of software, protocols and applications, such as spam[297] filters – that relied on checking non existing domain names to sort out junk emails – link checkers and other software relying on machine-to-machine communication.[298]

Also privacy concerns have been highlighted as, reportedly, the SiteFinder software hid some spyware.[299] Finally, there was no way the users could decide to abandon the SiteFinder service[300] and use another one or none at all.

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[296] The practice of typosquatting referred to in the text is considered equivalent to the registration of domain names that are confusingly similar to registered Trademarks.

[297] This term, borrowed from a TV series, is today used to indicate those unsolicited commercial emails sent to an undefined number of addressees, advertising the sale of certain products or services. In order to go around blocking filters, spammers have learned to often change the address from which they send their reclames; and often they make up non existing ones for this purposes. Therefore, one way to block spam is to set up a filter that before letting the email through, verifies if the domain of the sender's email address actually exist.

[298] See J. Weinberg "SiteFinder and Internet Governance", in *University of Ottawa Journal of Law and Technology, Vol. 1, Spring 2004* at page 9 *et seq.* of the SSRN electronic version. Even normal email servers were experiencing failures.

[299] Spyware is the name used to call a category of "software that gathers and reports information about a computer user without the user's knowledge or consent. More broadly, the term *spyware* can refer to a wide range of related malware products which fall outside the strict definition of spyware. These products perform many different functions, including the delivery of unrequested advertising (pop-up ads in particular), harvesting private information, re-routing page requests to illegally claim commercial site referal fees, and installing stealth phone dialers". See the online encyclopaedia Wikipedia at http://en.wikipedia.org/wiki/Spyware last visited on 8 December 2004.

[300] Ironically, the webpage Verisign had set to appear in response to a query for a non existing domain name warned users who did not want to accept its terms and conditions to stop using the service.

As noted also in the case of the WLS, there was already a market also for SiteFinder-like services: several firms were already supplying Internet surfers with their own web page in response to misspelled domain names, including suggestions for "what they really meant" or links towards the websites of sponsoring companies, that constitute the main source of revenue for this commercial activity.[301] The system used by these firms was the installation, upon users' request, of a special plug-in software (or a tool-bar) able to generate the sort of informative page described above upon typing of a non existing domain name. In any case, the user could anytime decide to uninstall the plug-in and get back to the old system where the response was an "Error 404" page.

IV.3.3.2 Antitrust concerns about the SiteFinder and the WLS

The services in question are autonomous from, although related to, the normal supply of domain names registration services.

(i) For what concerns the SiteFinder service, Verisign was providing the users with information such as a directory of websites of potential interest, advertisements and the indication that the domain name sought was available for registration. This last feature does not represent the main goal of the service, as those who type misspelled domain names are generally looking for a website and not for checking the availability of a domain name: this purpose is best served by the so-called whois database.[302] Moreover, the revenues from SiteFinder-type services mainly come from those who pay in order to have their website indicated on the page that Internet users will see. The relevant market in this case seems therefore to coincide with the provision of directory services to Internet users in response to a DNS query.

This service is to some extent similar to the one provided by a number of other Internet operators like Google, Yahoo etc., mainly coupled with search engine functions. However, the search engine must be activated by the user who first has to access the website of Yahoo or Google and then specifically perform a search, whereas this is not required in the case of the

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[301] Such kind of service was, *inter alia*, offered by Microsoft, Yahoo, Google, New.net.

[302] The whois database supplies the users with the information whether a certain domain name is registered and by whom.

supply of an informative page upon a DNS query. This means that the user will get such informative page even if she had no intention or interest in performing a search or before she could even do that.

The situation on this market is that a number of competing firms, including some of those offering search engines functions, were already supplying SiteFinder-like services, yet only when the user had decided to download the specific plug-in software. A market of this kind seems rather contestable, as it is not difficult for a company already active in the provision of Internet services to start – as well as to stop – offering also this type of service. However, when SiteFinder is implemented, no such service is capable of being offered any longer, as the condition to activate it – that a certain domain name does not resolve – will not occur any more. Therefore, SiteFinder seems capable of eliminating all competitors in this market. As said, this is possible only for the company which is the sole operator of the .com and .net registries.

(ii) In the case of the WLS, the services being offered are those of monitoring and querying the registry database, along with the provision of information and all other activities related to domain names that might expire. The final registration of the domain name, once it is available, is not different from the supply of registration services for those domain names that were never registered before.[303] However, it is in the provision of the first type of value-added services that Verisign has attempted to enter the market through the WLS. The second market, for actual registration is foreclosed to Verisign – in its quality of registry operator – by the provisions contained in the Registry agreement.

Similarly to what has been said for SiteFinder, also this market, in the way business is currently conducted, shows a high degree of competition and contestability; and similarly to SiteFinder, this contestability will be highly reduced by the introduction of Verisign's business model because it will transform the current competing suppliers in retailers of Verisign's WLS.

(iii) From what has been just said, a number of common remarks can be pointed out concerning the two services. First of all, both the SiteFinder service and the WLS are registration-related services and each of them affects a

[303] In this sense we should probably interpret the statement contained in Thomas v. NSI cit. above at footnote 208 (as reported by ICANN in its Motion to dismiss) that there is no different market for expired domain names.

secondary but related market to the registration of domain names. Moreover, in both cases, a competitive market for comparable products already existed and Verisign showed its intention to enter and compete therein. However, in both markets, the strategy it chose in order to be successful over its rivals is characterised by the exploitation of its market power in order to change the market structure and eliminate all competitors. A competition problem exists because this event does not occur due of the superiority of Verisign's offer but rather because it is in the position to exploit certain features of the market upstream in which it holds a monopoly position: Verisign's position in the upstream market of operation of the .com registry enables it not only to successfully enter into the related markets but also to do it in such a way as to completely change their structure. This kind of action has, indeed, the features of a leveraging of dominance with respect to the management of the .com and .net to gain market power in the downstream market of the mentioned related services.

As a matter of fact, just because it is the manager of the .com registry, Verisign could introduce the wildcard in the database in order to redirect all the queries to its own page. By so doing, the queries would not and could not reach any competitor; competing services would become unusable and competitors would be driven out of the market. The same kind of story can be repeated for the WLS: being the registry operator, Verisign could subject the provision of the services related to the re-registration of expired domain names to a sort of "tax" of 24 USD per year per subscription to registrars and thus to registrants, while transform all existing competitors into Verisign's own retailers.

Verisign claims that its products are technical improvements and that blocking their deployment equals to blocking progress and benefits for consumers. Verisign's competitors – and a number of other stakeholders – claim the opposite. Moreover, Verisign has pointed out that other registries, such as the manager of .museum, do use wildcards similar to the one in SiteFinder. However, this last remark cannot constitute a justification:[304] in a small registry like .museum, a page containing the list of the few hundreds registered SLD can indeed be useful as a directory, like a sort of yellow pages of all museums belonging to such directory. However, this is a different kind of service and with substantially different effects, as compared to SiteFinder:

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[304] See J. Weinberg cit. at footnote 298, at pages 15 *et seq.*

the aim of a service like SiteFinder is that of providing advertisements and not that of offering a comprehensive list of all websites under .com or .net (which is unthinkable).

The goal of protecting competition is to ensure that ultimately consumers get the best possible; and this should be a "natural" development of the elimination from the market of those who are less good. If Verisign's business model has the effect of altering the market structure in such a way as to make it impossible to verify which product consumers would ultimately prefer, this would deny the essence of competition itself. Therefore, if Verisign's actions actually have the exclusionary effect lamented by the firms currently active in the market defined above, then there are sufficient grounds for a claim of abuse of dominance.

It is true that protecting the market structure would imply that competitors are indirectly protected; however, in this kind of cases, allowing other firms to compete is the way to assure that consumers will eventually get the best product. In other words, Verisign is certainly allowed to compete in the market for SiteFinder-like or WLS-like functionalities, but it should do it on the merits of its products and not by altering the market structure thereby creating a own monopoly. Furthermore, in the case of WLS the introduction of the fixed 24 USD fee might actually constitute an additional indication that the leverage of monopoly power would lead to an increase in the price, thus contributing to substantiate the claim of abuse of dominance.

Therefore, the claim that the introduction of the two services was innovative and benefiting consumers does not seem adequate to contrast a claim of being abusive: to the extent that less restrictive means are available, as there seem to be, given that a number of companies are already competing in different ways in the market, Verisign should use those, instead of employing methods substantially harming competition.

If it is difficult to say ex ante which structure is more efficient and therefore preferable, however, as noted also in a different context, the observation of the revealed preferences of the undertakings in the market can be helpful: if a certain structure has been adopted by firms without market power, but not by a firm with market power, "it suggests that it may have efficiency benefits."[305]

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[305] See M. Cave cit. at footnote 121, at page 5, discussing the benefits from potential vertical integration.

A final additional remark is worth mentioning, namely that there is actually a difference between WLS and SiteFinder: while for the introduction of the former, Verisign "consulted" with ICANN, for the second function, it acted directly and started offering the service unilaterally. In the former case, therefore, it could be argued that, were it implemented, it is rather a restrictive agreement between ICANN and Verisign, than an abusive unilateral conduct. A proposed qualification for the WLS is, indeed, that of an exclusive dealing agreement,[306] since it results in ICANN granting Verisign the exclusivity for providing the service of re-assigning expired domain names, at the expense of all other operators currently offering the same kind of service.

The key of the issue is in the contract that binds the two corporations and that requires ICANN's agreement for the supply of "registry services";[307] thus, the definition of "registry service" is crucial to decide if Verisign actually needed to reach an agreement with ICANN. The matter is still *sub iudice*,[308] however, should the Court rule that WLS is not a "registry service" pursuant to the agreement, then Verisign will be free to implement it unilaterally and in this case it could be attacked as a form of abuse.

IV.4 The Market for Root Server Operations

At the top of the DNS industry, as explained above, there is a layer where the economic activity carried on is the operation of the root server. Such activity consists of maintaining the database that allows to identify the IP address of the operator of the different TLD registries so that their databases can be reached in order to continue the query process.[309] The activity also includes updating the root with the new entries, i.e. new operators wishing to run new TLD registries and assuring that in so doing there is no occurrence of colliding entries. The expression colliding entries refers to the situation in which there are two registries for an identical TLD, thus causing the effect that different users trying to resolve the same domain name under that TLD might eventually receive different answers or even that the same user might receive

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[306] See M. Froomkin and M. Lemley, cit. above at footnote 127, at page 150 *et seq.*

[307] See .com Registry Agreement at section 1.9.

[308] See above at page 62 *et seq.*

[309] See the description provided above in Section I.1.

different answers for the same query if repeated in different times or from different computers.

This activity constitutes a market on its own, since there is no substitutability with other products or services. The main economic features of this market are emphasized above when describing the DNS industry;[310] therefore I shall refer here to those considerations.

With respect to the structure of this market, there is basically one main operator and a number of small competitors.[311] The big operator, ICANN, has set up the above described distribution system through a mechanism of selection and accreditation of the companies operating in the markets downstream. In exchange, those who gain access gain also some participation in the constituencies that, in turn, will appoint the members of the board of ICANN. The small competitors are those referred to above as alternate root server operators.[312] ICANN itself is not and cannot operate as registry nor as registrar.

ICANN is not a successful company that conquered the market because of its most efficient organization or superior product or astonishing innovation. Nor was it the best bidder in an auction. In fact, it did not win any competitive battle: it was incorporated after the Internet and the DNS had already been created and established as a sort of standard based on non-proprietary protocols and on open bottom-up consensus and was then granted the technical management of such important infrastructure that the Internet relies upon.

Currently, it seems able to dominate the whole domain names industry, despite the fact that its efficiency and success are rather questionable.[313]

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[310] See Chapter II.

[311] It has actually been argued that none of them, individually taken, constitutes a real competitor for the root, since they are rather competing with the TLD registry operators; yet their association could be seen as a competitor for ICANN for the provision of the same kind of services. See Froomkin and Lemley cit. at footnote 127 at page 138.

[312] See above at page 26 *et seq*.

[313] See the analysis of the domain name industry conducted above in Section II and the one of ICANN in the following sections.

IV.4.1 Assessment of dominance

In Chapter II it has been shown that in the market for root server operation a situation of natural monopoly does not occur. Therefore, there is no argument for claiming the necessity of conferring exclusive rights to one single company.[314] And indeed, looking at the MoU and at the other agreements between ICANN and the US government, there is nothing that aims at granting such rights. Therefore nothing impedes that ICANN be subject to normal competitive constraints from those wishing to offer the same kind of service, such as the alternate roots.

However, the fact that the DNS is not a natural monopoly and that a few alternative competing networks do exist[315] does not exclude that the sole operator of the main root might for other reasons occupy a position of dominance in the market for root server operations. Yet, for substantiating this claim, it is important to verify if the size or importance of the ICANN network allows it to behave independently from these alternative network operators, or in other words, to exercise market power.

Currently, the parameters of the computers of the majority of the Internet users and of the majority of the Internet Service Providers (ISPs) are set up in such a way that they point to the A-root managed by ICANN or to its copies. Through its network, ICANN controls the vast majority of the domain names sold to end users and the penetration of the alternate roots has been estimated as "well under 1%" of all Internet users.[316]

This fact by itself indicates a condition of dominance (or super-dominance), according to the European courts' case law. In fact, there are no actual or potential competitors that would be able to constrain ICANN's decisions and behaviour. ICANN is able to decide autonomously how many and which TLDs will be visible to the vast majority of Internet users; in other

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[314] In fact, the presence of a natural monopoly is often been invoked in order to justify the need for a regulatory intervention granting exclusive rights for operating the fundamental infrastructure. The foundations of such a claim, however, have already been disproved by the economic analysis: if the market is a true natural monopoly, the monopolist does not need any exclusive right because smaller new entrants will anyway not be able to be equally efficient.

[315] See above in Chapter II.

[316] See Lemely and Froomkin, cit. at footnote 127 at page 142.

words, ICANN is supplying under monopoly conditions access to its root and can determine (and so far has directly determined) the level and type of output.

Moreover, ICANN is able to autonomously decide who will run the database of each TLD and who will sell the registrations. It is commonplace that the selection procedures of ICANN are all but transparent and accountable. Only recently ICANN, obliged by a deadline set in a clause of the MoU[317] concluded with the US Department of Commerce, issued a (draft) Strategy for Introduction of new Generic Top Level Domains.[318] However, this short document is seen rather an attempt to formally fulfil its obligation than a real effort to set up a clear and transparent framework for prospective gTLD operators.[319]

Third, ICANN is able to unilaterally determine the "fees" paid to it by registrars and registry operators with no connection to the service provided to them or to any other condition, except for that arising from its nature of not-for-profit entity – ICANN can only "earn" enough to cover its costs and not to make profits. Notwithstanding this limitation, ICANN has over time increased those fees – and its expenditures accordingly.[320]

Yet, we can imagine that there is even more than that. As it has been noted, in theory the power conferred by the control of the DNS could also be used to enforce any kind of regulation of the Internet or to exercise overall control over the content circulating on the Web.[321] The risk of this kind of

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[317] Section V.C.8, as substituted by Amendment 6 to the MoU of 16 September 2003 (Activities ICANN agrees to perform): to "define and implement a predictable strategy for selecting new TLDs using straightforward, transparent and objective procedures that preserve the stability of the Internet (strategy development to be completed by September 30, 2004 and implementation to commence by December 31, 2004)". See http://www.icann.org/general/amend6-jpamou-17sep03.htm, last visited on 3 October 2004.

[318] Published on 30 September 2004 – the final deadline indicated in the MoU – at http://icann.org/tlds/new_gtld_strategy.pdf, last visited on 10 October 2004.

[319] See for instance, http://www.icannwatch.org/article.pl?sid=04/10/02/0453220&tid last visited on 27 April 2005.

[320] See ICANN's budget of several years, all available at http://www.icann.org/financials/, last visited on 19 October 2004.

[321] See M. Froomkin, "Wrong turn in cyberspace: using ICANN to route around the APA and the Constitution" in *Duke Law Journal*, October, 2000, p. 21. However, this Author also acknowledges that at present, there are no signs that anyone intends to do it. Nevertheless, a significant example of this potential is given by the case of the Afghan TLD that was handed over to the US-supported interim authority upon presentation of a letter allegedly signed by

"private" regulatory power can also be minimised by competition: if there are more networks, compatible with one another, none of them could exercise such power, and if one of them did, users would have the possibility of deciding to switch to a competing one.[322]

ICANN's dominance is also protected from competitors' entry into the market. The main *natural* barrier to entry is represented by the network effects described above:[323] the fact of having been the first, and the actual size of its own network make it extremely difficult for new entrants to find their way into the market.

However, although very difficult, it cannot be considered impossible to overcome the effects of this kind. The above discussion about compatibility and interoperability[324] is aimed precisely at this: competitors will not have to build a new big network as long as they are able to make themselves compatible with the existing one. However, that same discussion highlighted that ICANN has no incentive to make itself compatible nor to allow those roots to interoperate with it. As a consequence, the existing barriers to entry from network effects are reinforced and enhanced by ICANN's actions aiming at excluding or limiting its competitors. ICANN enjoys not only the advantages of the advertising and promotional strategies, but also the return in image from the fact the sovereign governments consider it as their interlocutor for DNS issues. In the European Union, ICANN is even expressly mentioned in some regulations.[325] ICANN is also often making use of asymmetries in information: I am referring here, in particular, to the very common claim of "threats to stability of the Internet" used to try and block the emergence of certain actions or to re-conduct them within its structure, decision making processes, supervision and ultimately budget. This is of course based on the assumption that ICANN is the best placed to judge whether a certain conduct

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the previous manager of the registry. Apart from any evaluation of the choice, this example just shows the power enjoyed by ICANN.

[322] Even if one shares the opinion that certain content or certain people should indeed be banned from the Internet, this is the sort of policy decision that does not rest with a corporation for the self-regulation of the domain names business.

[323] In Chapter II.4.

[324] See above at Chapter II.4.

[325] See for instance, the Regulation of the European Parliament and the Council no. 733/2002 of 22 April 2002 on the implementation of the .eu Top Level Domain, in 2002 OJ L 113/1, at recital 15.

represents a threat to stability. The doubts whether this is true or not, and whether ICANN's judgment in such cases is objective and not biased by other kinds of considerations, have most of the times not been enough to counterbalance the fears of engendering instability.

Besides these, there are other actions aiming at excluding competitors that might be caught by the prohibition of abusive behaviour pursuant to Article 82 of the EC Treaty. They will be analysed in the following section.

IV.4.2 Problematic conduct

In this section, I am going to point out a number of actions undertaken by ICANN and will analyse them through the lens of the prohibition of abuse of dominance. The relevant actions for this purpose are of three kinds: the conclusion of exclusive distribution agreements, the refusal to deal with alternate roots, the creation of new gTLDs colliding with an existent TLD within a competing root server. Each of these actions has the potential of foreclosing competition and this feature will be tested against the existence of an objective justification in order to substantiate a claim of abusiveness of such conduct.

IV.4.2.1 Exclusive agreements

ICANN has established a distribution system which includes two exclusive dealing obligations on its contractors, namely registries and registrars. With respect to the former, registries are prevented from acting in such a way as to favour the emergence of competing roots;[326] in other words they can supply access only to the TLDs authorized by ICANN and cannot autonomously decide to run other TLDs registries belonging to alternate roots. On the other hand, with respect to the latter (the registrars), ICANN has imposed that its accredited registrars cannot supply TLDs belonging to

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[326] See the criteria for selection of new gTLDs at http://www.icann.org/tlds/tld-criteria-15aug00.htm (last visited on 8 December 2004) at Section 1: "introduction of the proposed TLD should not disrupt current operations, nor should it create alternate root systems". ICANN has also adopted a specific Internet Coordination Policy (binding for the participants to the ICANN network) stating the need of having a unique authoritative root. See Internet Coordination Policy 3 available at http://www.icann.org/icp/icp-3.htm last visited on 8 December 2004.

alternate roots,[327] thus making them exclusive distributors of ICANN-authorized domain names.

Exclusive distribution agreements entered into by firms without market power are considered in principle as having pro-competitive effects: they are helpful to minimise free riding, reduce transaction costs along the distribution chain, improve the quality of the service supplied. However, when one of the companies involved does have market power, it can use exclusivity to try and increase profits at the expense of competitors, by raising their costs, and at the expense of consumers by appropriating some of their surplus. These characters of so-called vertical agreements, entered into by firms operating at different stages of the production/distribution chain, are also acknowledged in European competition law.[328]

Moreover, EC law also explicitly recognises that a dominant enterprise cannot impose non-compete obligations, such as an exclusivity clause, unless it can objectively justify it as a commercial practice[329] within the framework of Article 82.[330] It has been noted[331] that, whilst for the evaluation of an exclusivity agreement under Article 81 it is necessary to examine the effects of such agreement on the market,[332] the same standard seems not be necessary for assessment under Article 82: in other words, if there is dominance, a stricter rule applies, according to which these agreements are not prohibited as such, but they will be considered abusive if they make competitors' entry into the market more difficult by raising their costs and exceed what is necessary to achieve a legitimate goal. As a consequence, this kind of conduct does not fall into the category of exploitative abuses, as the dominant firm's customers are not being "oppressed" and might be even willing to enter into such

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[327] Registrars are also bound to the previously mentioned Internet Coordination Policy. The Registrar Accreditation Agreement provides in Section 5.3.6 that the agreement shall be terminated in the case a registrar continues acting in a manner "that ICANN has reasonably determined endangers the stability or operational integrity of the Internet".

[328] See, for example, the Commission Guidelines on Vertical Restraints in OJ of 13 October 2000, C 291/1.

[329] See above Chapter III.

[330] Guidelines on Vertical Restraints at paragraph 141.

[331] Whish, cit. at footnote 149 at pages 655 *et seq.*.

[332] Unless it is covered by the Block exemption Regulation no. 2790/1999.

agreements;[333] it is the exclusionary nature of such contractual provisions that matters from the antitrust perspective.

The anticompetitive effect of the existence of exclusive dealing arrangements between ICANN and its registries and registrars is the foreclosure of the market to the alternative root operators. As highlighted above, the market is already protected by barriers to entry that require substantial investment in order to access it. In order to enter into the market, alternate roots might decide to subsidise the costs for users' switch from the ICANN system to theirs: for example, they might pay for having ISPs pointing at their databases or propose discounts to registrars accepting to sell domain names under an innovative non-ICANN TLD. Once alternative roots have achieved the critical mass, they would be able to recoup the investment. This might be a viable business strategy to overcome the network effects of the DNS industry.

When ICANN precludes its registrars from dealing with alternate roots, it is foreclosing one of the few possibilities for them to enter the market and compete. The exclusive agreement with registries, on the other hand, prevents companies that already have the expertise and have already made the kind of investment that would allow them to run multiple TLD registries, from actually doing so.

Along with the exclusivity thus far described, ICANN has also refused to allow alternate roots within its network: in the occasion of the selection of the new gTLDs and their operators in 2000, those who ran alternate roots or dealt with ICANN's competitors were excluded from the possibility of becoming registries.[334] This behaviour represents a kind of refusal to deal which does not seem justified by business practices: allowing them inside the ICANN network would re-conduct them under ICANN's supervision and would make them subject to the obligation to pay fees to ICANN.[335] This

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[333] In general, for there being an abuse, it does not matter that the dominant firm has imposed certain obligations or has been asked by the customers to enter into such contracts. See judgment Hoffmann-La Roche, cit. at paragraph 89.

[334] See the documents for the selection of new gTLDs, available on ICANN's website at http://www.icann.org/tlds/tld-application-process.htm last visited on 6 December 2004.

[335] History showed that alternative root operators would actually prefer to become ICANN registries: all of them had applied in the first round of selection of new gTLDs, making all the necessary investments and paying the relative application fee.

action seems rather directed to the ex ante elimination of the incentives to become potential competitors: by excluding that alternate roots operators could ever be allowed in the main root, ICANN conveys the message that it is better to wait and apply for an ICANN-authorized gTLD rather than risking own assets with no hope of eventually joining the main network. This risk is further enhanced by another kind of action undertaken by ICANN, which will be explored in the following subsection, namely the introduction of TLDs corresponding to those already offered by alternate roots.

In the end, such exclusivity agreements and the refusal to deal have as their outcome the restriction of the output and the markets, in terms of gTLDs and domain names available to consumers. Reduction of output refers not only to the restriction by a dominant undertaking of its own output, but also to those actions directed at limiting the ability of competitors to increase production or develop new techniques. Both initiatives have been undertaken in ICANN's case. Indeed, as pointed out above, ICANN has deliberately reduced the number of possible gTLDs and it has acted in order to prevent third parties from meeting the demand thus left unsatisfied.

ICANN's defence in such cases would refer to the existence of an "objective justification" for restricting competition. When ICANN has expressed its view about the introduction of new gTLDs in its A-root and about alternate root operators – which are both connected to the problem of shortage of gTLDs – it has always referred to the need of ensuring the stability of the Internet.[336] Could the "stability claim" be viewed as an objective justification?

In order to try to give an answer to this question, the problem must be first split into the two issues it is composed of: on the one hand, the increase of supply of TLDs within the ICANN network itself, and on the other hand the increase of supply outside the ICANN network, i.e. by competitors.

With respect to the first issue, the stability claim is articulated by ICANN in the sense that it is not safe for it to add TLDs to the root server because this would put in danger the stability of the Internet; therefore it must be done very slowly and cautiously. There is, however, convincing evidence that such stability claim is overemphasized with respect to the real dangers for the Internet because of the introduction of new gTLDs.

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[336] See for instance the Internet Coordination Policy cited at footnote 326 above and the recent draft Strategy for introduction of new TLDs cit. above at page 97.

First of all, as mentioned already,[337] when the growth of the Internet started compelling the enlargement of the name space, a first plan was proposed advocating the creation of a competitive environment with about 150 new registries. This plan was rejected not because it was technically not feasible, but for other more political reasons.[338] Moreover, quite a few ccTLDs, technically equivalent to gTLDs, have constantly been added to the root simply upon demand of the interested State, without ICANN being technically concerned. Third, other experts further noted that there is in principle no technical difference between operating some millions of names under .com – as it actually happens – and operating some millions of names in the legacy root.[339] Finally there is general consensus that, as it was forecasted, the addition of the seven new gTLDs in 2000 has not induced noticeable changes in the operation of the root.

The only technical claims that have been recognised are referred not to the insertion of new TLDs in the root, but rather to the *rate* thereof: it is not recommended to add millions of TLDs at once because of the harmful effects of mistakes in the root server.[340] To be sure, another potential harmful effect could derive from the increased number of queries to the root servers that could put the infrastructure under too much pressure. However, it has been observed that this does not depend on the number of TLDs but is a general problem of the DNS infrastructure and of its ability to respond to the challenge of a growing Internet community: in other words, the number of queries does not depend on the number of gTLDs, but rather on the number of computers connected to the Internet that send those queries.[341]

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[337] See above at page 13.

[338] *Ibidem*

[339] See Mueller "Towards an economics of domain names" cit. at footnote 45, at page 34.

[340] Recently (April 2005) the National Academy of Sciences' National Research Council has released its report on "The Domain Name System and Internet Navigation", where it is stated that there are no purely technical reasons that the root name servers could not function with a much larger number of TLDs and that concerning the rate of addition, "tens" of new TLDs per year are not deemed to cause serious risks to the stability of the root. The report was prepared by a committee that included economists such as Hal Varian and Stanley Besen, besides Milton Mueller, technicians and representatives from industry.

[341] Email from the IETF (Internet Engineering Task Force) Chair Fred Baker to M. Mueller, cited by Mueller in "Towards an economics of domain names", page 35.

It has been concluded that, even a conservative approach would support the possibility of adding around 50 new TLDs annually without incurring in any of the feared problems of instability.[342]

With respect to the other part of the problem, the risk of instability stemming from the increased supply of TLDs by ICANN's competitors, the argument is that alternate roots will put in danger the universal resolvability of domain names by favouring the existence of colliding TLDs. First of all, it is clear that this claim cannot be used to justify the refusal to deal with operators of alternate roots mentioned above: accepting them into ICANN's root would in fact solve the risk of names collision *ab origine*.[343]

In more general terms, however, this claim has been dealt with already *supra* in this work[344] and thus I will simply refer to the remarks put forward therein: the mere existence of alternate roots does not necessarily imply name collision; in fact, alternate roots' incentives are rather pushing towards assuring interoperability and avoiding names collisions; however, if we allow for more than one supplier at the top of the DNS, the coordination costs will necessarily increase. The claim of protecting Internet stability echoes another claim put forward by dominant operators in the Telecom sector at the beginning of the liberalisation age, the claim of "integrity of the network". In those cases, there was some truth in the integrity claim, but most of it was just a last attempt to protect a monopolistic position.

In the case that concerns us today, there is a large consent that universal resolution and univocal responses to DNS queries are a very important feature for the existence and reliability of the Internet itself. Therefore, should the already existing alternate roots' incentives for interoperability not be considered sufficient to reach this goal, what follows is not that competition in the root server market should be prevented, but rather that it is necessary to impose, in addition, minimum coordination obligations.[345]

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[342] *Ibidem*.

[343] In this sense also Froomkin and Lemley, cit. at footnote 127 at page 149.

[344] See Chapter II, at page 41 *et seq*.

[345] It has been also remarked that in order to counterbalance the claim of abusing its position, ICANN is not free to put forward the justification that competition in the first place is undesirable. See Froomkin and Lemley, cit at footnote 127 at page 150.

IV.4.2.2 Creation of a colliding TLD

In the occasion of the first (and last, so far) introduction of new TLDs, ICANN approved the creation of the .biz TLD. However, a registry for .biz already existed and was run by one of those alternate roots.[346] When this occurred, the alternate root's users had to decide whether to stay with the current supplier or to switch to ICANN: the original .biz manager was allowing them access to both its own and ICANN's domain names, but when the entries in the two networks started to collide, the need for univocal resolvability forced the users to decide which one was more worth keeping. Keeping the small competitor would mean to lose the whole rest of the Internet, which was not a viable option. Therefore, due to ICANN's position in the market and to the network effects, this move, made before the competitor had reached a critical mass, determined the redirection of users to ICANN, with elimination of the other firm from the market.

This behaviour has also the features of an abuse of dominance. It might be seen as having the characteristics of a tying: users who want access to the whole ICANN network must accept to be supplied also with the .biz. Tying by a dominant firm is regarded as harmful under competition law because it allows such firm to leverage its market power in order to increase its dominance or to protect its market position. The .biz example can be in fact assimilated to defensive leveraging: by introducing a colliding entry, ICANN showed to be an aggressive incumbent that would not hesitate to take actions directed to the elimination of a competitor from the market, even putting in danger universal resolvability. Potential competitors are effectively discouraged from running alternate roots with the danger that their business might eventually be disrupted by ICANN. This way, ICANN's position on the market for root server operations would be preserved.[347]

Should ICANN put forward, as an objective justification, the legitimate business reason of the freedom to introduce a new product for which there is a demand by the consumers, it would contradict its own affirmation of the

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[346] The Atlantic Root Network. See http://www.biztld.net/ last visited on 8 December 2004. However, after the introduction of the ICANN-authorized .biz, the resolution of the «original» .biz domain was discontinued.

[347] In fact, it is not even necessary to qualify such behaviour as tying. What is relevant here is the exclusionary effect of such conduct, which has the characteristics of an abuse, in the sense that it influences the structure of the market through methods different from those governing normal competition (see above in Section III.1).

necessity of universal resolvability: since the "product" in question was already supplied on the market, it is ICANN that is risking colliding entries and not the competitor. Such a claim would in fact amount to stating the necessity of having a monopoly on the supply of TLDs and that this monopoly should be that of ICANN. However, it has already been discussed[348] that there is no necessary link between universal resolvability and monopolistic supply of TLDs, as the goal of having non colliding entries can be achieved in a way that is much less restrictive for competition, namely interconnection and reciprocal compatibility, principle that is precisely what ICANN has disregarded.

IV.5 The concept of undertaking and the applicability of EC Competition Law

The analysis undertaken in the previous sections relied on the assumption that the EC law abuse of dominant position would apply to the facts and entities discussed above. Yet, such claim must also be substantiated. In fact, in order to establish the applicability of EU competition law over the matters highlighted above, beside ascertaining the restrictive ability of any particular behaviour on competition, it is necessary also to verify that the concerned entities are actually undertakings for the purposes of Article 82 of the Treaty and that there is European jurisdiction in the first place.

The position of the European Commission with respect to the latter problem has been made clear already at the time when the new setting for DNS Governance was being discussed: "Any system for allocating domain names that will be used by companies operating in the EU/EEA is capable of affecting competition in the EU/EEA."[349] Indeed, for EC Competition law to apply, it is not of particular concern that some of the entities concerned are non-EU undertaking as long as they engage in conducts directly affecting the European market. Apart from those cases, in which they deal with European undertakings,[350] even when no European undertaking is involved, it is

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[348] See above at page 46 *et seq*.

[349] DG IV (former denomination of DG Competition) official K. Coates in his speech "Competing for the Internet" given on 1 February 1998, prior to the incorporation of ICANN, available at http://europa.eu.int/comm/competition/speeches/text/sp1998_006_en.html last visited on 27 October 2004.

[350] Like British Telecom, as one of the accredited registrars.

sufficient that there are "immediate and substantial" effects in the Community. To this respect, there is no doubt that the distribution of domain names has a substantial relevance within the European market.[351]

EC competition law applies, however, only to "undertakings", and therefore it is necessary to ascertain whether the entities involved in the domain names business fall into the definition of undertaking provided by the European Court of Justice. The concept of undertaking is a Community concept and includes every entity exercising an economic activity, regardless of its legal qualification under national law and of its way of financing.[352] Also the concept of economic activity has been defined by the Court in the sense that it encompasses every activity consisting of providing goods or services on a particular market.[353]

There is little doubt that domain name registrars meet this definition, as they offer the registration services to customers in exchange of a price, and the same can be said of the operators of the TLD registries, providing the (paid) service of management of the TLD directories. This conclusion holds also for those entities being characterized as public or not-for-profit, as in the case of some ccTLD operators.

With respect to ICANN, this conclusion still holds. ICANN offers the service of management of the legacy root in exchange of the payment of some fees and organises a distribution chain to provide domain names to end-users; this activity falls also into the definition of economic activity and can therefore be subject to EC competition law. The complicated and technical nature of the services offered, according to other ECJ's judgments, does not justify any exemption from this qualification.[354]

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[351] See judgments Wood Pulp, case 89/85, of 1988 in ECR 5193 and Gencor v. Commission, of 1999, case T-102/96, in ECR II-753.

[352] Cfr. judgments Höfner and Elser, of 23 April 1991, case 41/90, in ECR p. I-1979, no. 21; Fédération française des sociétés d'assurance, of 16 November 1995, case C-244/94, in ECR p. I-4013, no. 14, and Job Centre II, of 11 December 1997, case C-55/96, in ECR p. I-7119, no 21.

[353] Judgment Commission v. Italy of 18 June 1998, case C-35/96, in ECR p. I-3851, no. 36.

[354] See, about the same discussion with respect to professions like attorneys or medical doctors, judgment Pavlov of 12 September 2000, cases C-180/98 to C-184/98 in ECR p. I-6451, no. 77.

Some problems could arise with respect to the "public interest" that could be connected with the management of the legacy and to the role of the national Governments in the decisions and policies enacted by ICANN.

However, since the beginning of the discussions preceding the creation of ICANN, despite the fact that some commentators had advocated full antitrust immunity for the prospective US government contractor, the US Government, however, refused to grant such immunity. The White Paper, indeed, states that potential antitrust liability "will provide accountability and protection for the international Internet community" and that as any other corporation, also ICANN should anticipate the risk of legal challenges.[355] The European Commission itself anticipated the necessity of a notification pursuant to European competition rules, of the proposed system because of its "private sector nature."[356]

Moreover, since the creation of this corporation, its private and independent nature was repeatedly stressed by the US Government itself, which neither issued binding guidelines for ICANN's activity nor was ever consulted in the process of issuing new policies or other interventions. Moreover, the US government has not exercised any active supervision over the activities performed by ICANN and has, at instances, limited itself to rubber-stamp the decisions taken by ICANN's board and staff.[357] It has to be noted that the US Congress has from time to time shown some concerns about ICANN's functioning and sometimes even called for a direct intervention, but no concrete measures have been undertaken so far. Moreover, albeit in a case related to different issues, recently an American court has ruled that ICANN is not a government actor.[358] The American

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[355] See White Paper, cit at footnote 38 at point 9. "Competition Concerns".

[356] See the Communication from the European Commission to the European Parliament and to the Council of 29.7.1998, COM(1998) 476, final: "Internet Governance. Management of Internet Names and Addresses. Analysis and assessment form the European Commission of the United States Department of Commerce White Paper". It is not clear whether the ICANN system was in fact ever notified pursuant to the rules of procedure in place at the time (i.e. Regulation 17 of 1962). In any case, no decision has been taken by the Commission on this issue and none is likely to come: pursuant to the new regulation on the application of antitrust rules (Regulation 1/2003) no notification is necessary any more and all notifications already sent elapsed on the day Regulation 1/2003 entered into force.

[357] See Froomkin and Lemley cit. at footnote 127, at page 130; see also M. Mueller Ruling the root, cit. at footnote 23.

[358] Reported by http://domaine.blogspot.com/. The case is McNeil v. Verisign, decision unpublished, and reportedly concerned issues of freedom of expression.

scholarship[359] that studied the position of ICANN seems inclined to qualify ICANN's status as of a private enterprise.[360]

Finally, it can be noted that ICANN has been sued in a number of antitrust actions in the USA:[361] in those, even when the claims were dismissed, the defendant did not argue and the Court did not rule that ICANN was immune from antitrust law. It seems, therefore, possible to conclude that ICANN is a private enterprise and, consequently, to consider it subject to antitrust scrutiny also in Europe.

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[359] See Froomkin and Lemley, cit. at footnote 127, at p. 102 *et seq*.

[360] From a different point of view, some scholars complain about the lack of legitimacy, if ICANN is to be considered as a public body or agency. Cfr. M. Froomkin "Form and substance in cyberspace", of 10 April 2002, in *Journal of Small and Emerging Business Law*, vol.6, 2002, p. 105, also available at Froomkin's website http://www.law.miami.edu/~froomkin/articles/formandsubstance.pdf (last visited on 8 December 2004). Yet, this does not change the substance of the current approach: in the absence of legitimacy as public body, ICANN cannot be but a private undertaking.

[361] See above at page 62.

V. THE EU AND THE INTERNET GOVERNANCE

V.1 Introduction

In the previous chapter, I have discussed the assessment of some behaviour of dominant firms in the domain names markets according to European competition law. Given that the conclusion of the previous analysis is that it would be possible to consider such behaviour as abusive, one might wonder what the actual European involvement in such issues has been. European concerns about the Internet governance, although not as deep-rooted as American ones,[362] are nevertheless not new-found. At the time when the future organisation of the Internet governance was being decided in the mid-Nineties, the European Commission took an active role to have its voice heard. The Official Journal gives us numerous testimonies of the inter-institutional Communications,[363] and other notes were addressed to the US Government.[364] The main concerns were the European participation to the decisions concerning the new system of Internet Governance and the internationalisation of the DNS, perceived as a global resource and therefore to be subtracted from US exclusive control.[365] The Commission shared the concerns, expressed also by other observers, about the establishment of a competitive environment in the domain names markets. In more recent times, in the wake of the launch of ICANN reform, the Commission was again

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[362] A presentation of the reasons for the European lag with respect to the interest and the involvement in the governance of the Internet is carried out by R. Werle; this Author argues that the European lack of interest in the Internet until the mid-nineties is mainly due to the institutional framework, to the existence of national monopolies in the telecom sector and to the "blindness" of the European institutions in timely recognising the central role of the Internet while redesigning the European telecommunications policy. See R. Werle, "Internet @ Europe: Overcoming Institutional fragmentation and policy failure", in European Integration online Papers (EioP) vol. 5 (2001) n° 7 of 25.6.2001; http://eiop.or.at/eiop/texte/2001-007.htm last visited on 27 September 2004.

[363] See below at footnotes 367, 369 and 372 and accompanying text.

[364] Reply to the European Community and its member States to the US Green Paper, Communication of the Council and the Commission to the Department of Commerce, archived at http://europa.eu.int/ISPO/eif/InternetPoliciesSite/InternetGovernance/MainDocuments/ReplytoUSGreenPaper.html last visited on 27 September 2004.

[365] See M. Mueller Ruling the root cit. above at footnote 23 at page 150 and 172.

involved in the negotiations and pushed for an enhancement of the role of the ICANN Governmental Advisory Committee[366] to which it actively participates and holds the functions of Secretariat.

The aim of this chapter is to give a brief overview of the EU approach to the Internet Governance, pointing out in particular the antitrust concerns showed and the initiatives undertaken by the European institutions during the course of the evolution of the governance system for domain names. The efforts for the creation of the .eu TLD will be also presented. Lastly, a problem peculiar to the European legal system will be analysed, concerning the practice of some national ccTLDs and the arguable anticompetitive nature thereof.

V.2 The European Commission's actions in the Internet Governance arena

The European Commission first voiced its worries in the wake of the publication of the US DoC Green Paper, with its Communication of 20 February 1998.[367] As said above, the main concern was the European participation to the new governance system; however, the Commission pointed out also the problem of the "natural monopoly position" occupied by manager of the IP addresses and of the DNS "for practical purposes" and of its exercise of "certain regulatory functions", while not having a clear status under European competition law; moreover, the structural separation of registry and registrar function was not deemed enough to enable competition in the domain names markets; finally, similarly to the telephone sector, the Commission urged that domain names portability and scalability be ensured.[368]

In the subsequent Communication of 29 July 1998, that followed the issue of the US DoC White Paper,[369] the Commission seemed to have been

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[366] See above at page 24.

[367] Communication to the Council from the Commission "International Policy Issues related to Internet Governance", of 20 February 1998, available at http://europa.eu.int/ISPO/eif/InternetPoliciesSite/InernetGovernance/MainDocuments/Communicationof20_february_1998.html, last visited on 27 September 2004. The concerns expressed in this communication were repeated in the Reply to the Green Paper, sent to the US DoC on 16 March 1998 (cit. above at footnote 364).

[368] *Ibidem*.

[369] See the Communication from the European Commission to the European Parliament and to the Council of 29.7.1998, COM(1998) 476, final: "Internet Governance.

globally satisfied of the response of the US Government to the comments highlighted in the previous communications, in particular with respect to the issue of "internationalisation" of the DNS;[370] however, it kept stressing the importance of an antitrust assessment of the new system and anticipated the necessity of the notification thereof.[371] In a new Communication of 7.4.2000,[372] the Commission restated, among other comments, its intention to actively participate in the management of the Internet and "to monitor developments in the Internet Naming and Addressing system from the point of view of competition policy".[373] It also reported that it had focused, in particular, on the effects of the agreements entered into by the US DoC, ICANN and NSI[374] concerning NSI's operation of the then three existing registries .com, .net and .org conditioned to the dismissal of the registrar business; in this respect, the Commission had concluded that "they broadly responded to the main competition concerns that the Commission had identified" and thus the investigation was closed.[375]

However, the Commission was still keeping its eyes on the issue of the possible competition concerns stemming from the concurrence within the same entity of both the registry and the registrar business: the launch of another investigation is reported in 1999, concerning "Internet agreements" in order to assess their compatibility with European competition law.[376] The Commission was troubled that NSI could discriminate against competing registrars in favour of its own registrar, that it would not be subject to the same rules as the other registrars, that domain name portability across competing

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Management of Internet Names and Addresses. Analysis and assessment form the European Commission of the United States Department of Commerce White Paper".

370 The Commission defines the assessment of the White Paper "generally favourable" at point 3 of the said Communication.

371 As mentioned above in footnote 356, there is no indication that such notification ever took place.

372 Communication from the Commission to the Council and the European Parliament of 7.4.2000, COM(2000) 202: "The organisation and Management of the Internet. International and European Policy Issues 1998-2000".

373 *Id.* at page 24, sub "10 Conclusions".

374 See above at page 16 *et seq.*

375 See Communication of 7.4.2000 at page 13 sub "5.3 ICANN accreditation of competing Registrars".

376 European Commission Press Release of 29 July 1999 IP/99/596.

registrars could be deterred by the policy of the dominant one. In particular the possible discrimination in favour of NSI own registrar was continuously felt until NSI's successor Verisign eventually proceeded with the divestiture of the registrar branch.[377] To date, no final decision has been taken on this matter by the Commission, and it seems rather unlikely that such a step would be undertaken now that the divestiture has been completed.

The EU was active in the domain names arena also with respect to a different issue: another part of the EU strategy for the Internet Governance, often mentioned in the same Communications cited above, was the introduction of a TLD .eu. Currently, the European Union is the assignee of the *second* level domain "eu" in the TLD .int. However, the EU was interested in the creation of .eu as a *top* level domain itself, in order to encourage cross-border electronic commerce within the Union and to offer a EU-Internet identity to those companies wishing to establish an EU-wide Internet presence.[378] To reach this goal, the EU, as any other entity wishing to run a TLD, needs to have it added to the legacy root and thus it turned its manager, ICANN.

The process for the creation of such TLD proved to be rather complex. To begin with, the TLD .eu is peculiar because it is not a generic one, but it is not even a country-code TLD, since the EU is not a country and was not originally listed in the ISO standard which ICANN/IANA refer to when adding new ccTLDs to the root.[379] Moreover, ICANN expects that the prospective .eu registry operator signs a contract that would bind it to ICANN's policies. All these kinds of problems were probably among the causes of the length of the process of introducing the .eu. The slowness of the machinery of the EU further contributed to the delay:[380] it took two

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[377] See above at footnote 51 and accompanying text.

[378] The Commission's Information Society DG maintains a website containing the information on this matter is http://europa.eu.int/information_society/topics/ecomm/all_about/todays_framework/public_resources/names_addresses/eu_creation/index_en.htm last visited on 8 December 2004.

[379] Sceptics provocatively started calling for a .nato, .nafta or other international organisations' acronyms. However, the eu abbreviation was eventually added to the standard and this issue was solved.

[380] "Empirical evidence indicates that the European Union is just slightly closer than the moon. It took eight years between President Kennedy's speech announcing the goal of putting an American on the moon and Neil Armstrong's and Buzz Aldrin's historic steps. On the other hand, it looks like it will take only about seven years between the time European

regulations[381] and a decision[382] before the registry operator was selected;[383] the contract for the management of the .eu registry was finally entered into in October 2004.[384] At the time of writing the remaining step is to conclude negotiations[385] with ICANN to have the .eu put in the root, before starting with the pre-registrations, sunrise period,[386] and then finally the actual registration of domain names under .eu.

The two regulations set up the principles governing the .eu TLD and the registration policy that the registry operator shall follow: physical persons resident in the EU and legal persons established therein are eligible for a domain name under .eu; first come, first served is the principle that will govern registrations, except for the preliminary phase in which only the holders of prior rights can be assigned a domain name; the registry operator will enter into an agreement wit ICANN; separation of the registry and registrars functions shall be

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Commission decided to institute a .eu TLD and the time that domain is expected to go 'live'. As long as there are no unexpected delays". See http://www.icannwatch.org/article.pl?sid=04/10/19/221202&mode=thread last visited on 20 October 2004.

[381] Regulation no. 733/2002 cit. above at footnote 325 and Commission Regulation No 874/2004 of 28 April 2004, laying down public policy rules concerning the implementation and functions of the .eu Top Level Domain and the principles governing registration, in 2004 OJ L 162/40.

[382] Commission Decision of 21 May 2003 on the designation of the .eu Top Level Domain Registry C(2003) 1624 in 2003 OJ CL 128/29.

[383] EURid, a consortium including the national registries of Italy, Belgium and Sweden. See http://www.eurid.org.

[384] See the 12 October 2004 news release: European Commission signs contract with .eu Registry" at http://europa.eu.int/information_society/newsroom/cf/itemlongdetail.cfm?item_id=1383 last visited on 20 October 2004.

[385] Despite years of talks about the .eu TLD, it seems that it will take nine more months to carry on the necessary negotiations between ICANN and the appointed registry operator, EURid. Recently, ICANN and the Commission have announced that "ICANN's board took steps to authorize the delegation of .EU as a ccTLD, and for ICANN Staff to enter into an agreement with EURid and to complete the delegation of .EU". See the announcement at http://www.icann.org/announcements/announcement-23mar05.htm and the factsheet issued by the Commission at http://europa.eu.int/information_society/doc/factsheets/017-doteu.pdf last visited on 27 April 2005.

[386] This expression designates the period of time, prior to the actual opening of the registrations, in which the holders of Trademarks and other rights can already request the assignment of the corresponding domain name.

established taking into account the indications of the WIPO and using as model ICANN's UDRP.

The overall approach of the EU to the Internet Governance is shown in the account of the facts given above. It can be noted, indeed, that in the global debate over the governance of the Internet and the management of its essential infrastructure – i.e. the DNS – the EU and its member States were watchful but did not take the lead for the definition of an alternative system of governance; the Commission rather left the lead to the US Government and limited its criticism to pointing out some issues supposed to be of particular European concern. In fact, the EU showed to have accepted the existence of a US-based ICANN-managed DNS: the Commission encouraged national ccTLD registries to participate to ICANN's ccNSO[387] and in the process for the introduction of a European Top Level Domain .eu, as just mentioned, it elected to go through the mechanisms of ICANN system, by negotiating the addition of the .eu to ICANN's legacy root.[388]

At the end, the major achievement of the Commission can be identified in the enhanced role of the ICANN's Governmental Advisory Committee (GAC) and in its own participation therein. Truly, on the one hand, this confers to the European Commission the power to push through some policies from within ICANN's structure; however, on the other hand, it implies acceptance of such structure in the first place: the Commission finds thus itself "bound", so to say, to a set of agreements and an organisation that proved to be the source of major problems, of the kind highlighted in the previous chapters, and that the GAC is ill-suited to address and solve. The European Union's Presidency has moreover stated in the occasion of the aforementioned UN Working Group on Internet Governance, its support to "existing mechanisms or institutions", albeit stressing at the same time the need for governmental role with respect to "principle issues of public policy".[389] Therefore, it is not clear whether the Commission will be willing to intervene against one of the entities of the ICANN system or against ICANN

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[387] Already in the Communication of 7.4.2000 cited at footnote 372. More recently, see Speech/04/191 of 15.4.2004 given by then Commissioner for Information Society Erkki Liikanen at the SIDN event in the Hague "Internet Governance the way ahead".

[388] This was not an obligatory route, if it is true, as it seems, that China issued own TLDs without negotiating with ICANN. See above at footnote 147.

[389] Statement of the EU Presidency at the third meeting of the WGIG 18-20 April 2005, available at http://www.wgig.org/meeting-april.html.

itself by using the powers conferred to it, for instance, in the enforcement of competition, or will elect to limit itself to its consultative role within the GAC.

V.3 A particular problem with European ccTLDs

One of the points raised by the Commission in the 2000 Communication[390] was that the registration policies of ccTLDs should be "consistent with the principles of the Internal Market and EU Competition policy".[391] With respect to this issue, indeed, a particular problem seems to arise for some of the national ccTLDs that impose nationality or residence in the country in order to qualify for a domain name in that country's TLD. Before addressing the point, it is useful to recall some features of ccTLDs and to give a short overview of the national registration practices.

V.3.1 ccTLDs and their registration practices in the EU

As said before, there are in total 257 registries: 14 gTLDs and 243 ccTLDs.[392] However, the statuses of ccTLD and of gTLD registries are quite different. Differently from gTLDs, national registries are not bound by the obligation to keep registrar and registry functions separated and indeed many of them perform both types of operations, sometimes making use of additional retailers. ccTLD registries, especially the ones pre-existing to the creation of ICANN, still enjoy some degree of independence from ICANN and are not bound by registry contracts, although from the technical point of view they rely on the same hierarchy. Only with respect to new ccTLD registry operators and to those that have been re-delegated, ICANN has succeeded in negotiating special registry agreements.

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[390] Cited above at footnote 372.

[391] Repeated twice in Section 5.7 and in the Conclusions of the Communication of 7.4.2000, respectively at page 15 and page 24.

[392] Leaving out the .arpa TLD, not open to the public and used exclusively for technical infrastructure purposes, see http://www.iana.org/arpa-dom/ last visited on Nov. 18, 2003.

Yet, the existing national registries seem to be in a position allowing them not to accept the agreement if they are not satisfied with it,[393] although ICANN has shown to hold the power to take away the management of a registry from an organization in order to give it to a different one.[394] ICANN could, in principle, also decide to exercise the power to exclude a whole country from the Internet.[395]

There are, therefore, good reasons for cautiousness on both sides, due to the political implication of the exercise of some power by an American corporation upon a foreign organization managing a resource which is perceived as closely connected with the national (Internet) identity of a different country.[396] The analysis conducted in the previous chapters is therefore, only partly extendable to ccTLDs.

As acknowledged by the European Commission, however, ccTLDs can be the source of a different sort of concern in a European perspective, in connection with the establishment of internal market and the application of competition principles. This concern may refer to the requirement of residence or establishment in a country as condition to register a domain name under that country's ccTLD.

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[393] And they are definitely not, because it would mean to lose independence and to be obliged to pay increasing annual fees to ICANN. On this point, see the letter of 16.5.2004 from the CENTR (Council of European National TLD Registries http://www.centr.org) to ICANN's CEO concerning ICANN budget: "the budget figures and the contribution asked from ccTLDs are unrealistic and inappropriate".

[394] As it has happened in the case of the manager of the ccTLD .au for Australia. However, when it happened, it was with the consent or the request of the State concerned. From a purely technical point of view, ICANN could independently decide so, but it is unlikely that it will do it in opposition to the will of the country in question. In other words, ICANN's technical power and the interested Government's political power made it possible.

[395] An example is given by the unclear suspension of the operation of the Libyan TLD for some days in 2003 or the case already mentioned of the Afghan TLD that was handed over to the US-supported interim authority upon presentation of a letter allegedly signed by the previous operator of the registry.

[396] The Commission has clearly stated in its Communication of 7.4.2000 cited at footnote 372, that "ICANN's direct authority over the ccTLD Registries should be limited to a few very critical technical parameters. National ccTLDs' registration policies are a matter between the Registry and its local Internet Community and the relevant government or public authority" (section 5.7 at page 15).

It is interesting to note that a national Registry[397] that previously imposed residence requirements and then eliminated them, acknowledged that it was contrary to EU rules and went even further:[398]

> *IIS believes EU law will in the long term preclude it from preventing registrations of legal entities domiciled within the EU [but outside of Sweden]. To impose restrictions only to the EU seems rather pointless, and IIS believes that interest abroad in registering an .se domain is going to be limited. It is also rather easy for those who wish to register an .se domain to circumvent the regulations by registering a partnership or similar in any EU country.*[399]

Surveying the ccTLD registration practices in the 25 Member States, it emerges, in fact, that the vast majority of the States do not put any restriction on registration based on nationality/residence/establishment. In a number of cases it is explicitly stated in the Naming rules that any natural or legal person is entitled to register a domain name under a given ccTLD (.gr, .nl, .lu, .se). Some registries that in the past had put restrictions on registration, have now removed them.[400]

In a few countries, on the contrary, the naming rules adopted do contain some restrictions. Apart from those requiring a "connection" or "link" to the concerned country and those requiring a contact person in the country,[401] there is a handful of countries requiring residency for natural

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[397] The Swedish Internet Infrastructure Foundation, in charge of delineating the registration policies for the .se TLD.

[398] In "Liberalized regulations for registration of domain names under .se", report by the Regulations Committee, Edition 3.0, Stockholm, 6 June 2002, available at http://www.iis.se/meta/bilaga_slutrapport3.0_eng.pdf, last visited on 7 June 2004.

[399] *ibidem*, under "C. Eligibility to register under .se".

[400] This is the case for the Italian one that now requires the entity applying for a .it domain name to be established in the EU, and the Swedish one that has adopted the policy of granting registration to all natural and legal persons that so wish. Slovenia has also changed its policy very recently, while it used to consider eligible for a .si domain only: commercial entities with principal offices in Slovenia which are inscribed in the Business Registry; main subsidiaries of foreign commercial entities engaged in activities on the Slovenian territory and inscribed in the Registry; diplomatic and consular representative offices of foreign States; international organization of which Slovenia is a member.

[401] Like Ireland, whose naming rules contain also a list of situation that can be interpreted as "connection" or interest in the concerned country. Interesting also the case of Cyprus, giving "preference" to entities that actually carry on business in Cyprus.

persons or inscription in the national Registry for companies: Spain, Finland, France and among the new Member States Estonia, Hungary and Slovakia.

In Spain, the assignment of domain names under the .es is subject to quite some degree of regulation through a bunch of national decrees and orders. The naming rules state that "Assignment of a regular domain name will be to Spanish or foreign natural persons with legal residency in Spain and organisations with their own legal personality constituted according to Spanish Law, registered with the corresponding Public Spanish Register (Registro Público Español)."[402]

Also Finland has a legislative act on domain names, in which it is stated that: "A legal person, a private entrepreneur, a Finnish public body, an unincorporated state enterprise, an independent public corporation, a public association, and a diplomatic mission of a foreign state registered in Finland may apply for a domain name."[403]

In France, the entity entrusted with the assignment of domain names is Afnic, a not-for-profit association that requires "legal existence" on the French territory, which is explained as domicile for natural persons and establishment for legal persons.[404]

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[402] Point 2.1 of the Rules. The Rules are available in English at https://www.nic.es/ingles/rules.html last visited on 3 November 2004.

[403] Section 5.3 of the Act on Domain Names of January 2003. An explanation can be found in the instructions on the website of the registry, available at https://domain.ficora.fi/fiDomain/aca.aspx, last visited on 7 June 2004, sub "Who can apply for a domain name". as:

> "A company or a community entered into the Finnish Trade Register, the Finnish Register of Associations or the Finnish Register of Foundations, or a corporation within the Finnish public sector, may exclusively apply for a domain name. It is not possible to apply before the registration is final. Therefore, a pending registration does not do".

[404] The criteria reported on the website http://www.afnic.fr/obtenir/chartes/nommage-fr#4 (last visited on 3 November 2004) identify as entitled to a .fr domain name: "*legal entities:* (1) whose head office is in France; (or), (2) which possess an address in France which is expressly listed in the public electronic databases of the registrars of the commercial courts or the National Statistical and Economic Studies Institute (INSEE), (or), (3) State institutions or departments, local authorities or associated establishments, (or), (4) which own a trademark registered with the National Intellectual Property Institute or own a registered EU or international trademark which expressly includes French territory; *natural persons:* (1) of French nationality; (or), (2) of foreign nationality who are domiciled in France; (or), (3) who own a trademark registered with the National Intellectual Property Institute or own a registered EU or international trademark which expressly includes French territory".

Among the new member States, the Estonian national registry, in the FAQs available on its website,[405] makes it clear that a company must be registered in Estonia in order to get a registration under both .ee and .com.ee. The same rule applies in Hungary,[406] with the difference that registrations of third level domains under a predefined SLD are open, and that also foreign companies with a registered Trademark in Hungary are eligible for a .hu (similarly to France). Furthermore, Slovak rules[407] require the user of the domain to be either a firm which is entitled to run a business in Slovakia or a physical person who is a Slovak citizen or a entrepreneur in Slovakia.

V.3.2 Competition and internal market issues

The above indicated restrictions for obtaining a domain name under a national ccTLD, based on residence or inscription in the national companies' Registry might create a competitive disadvantage for businesses established in another Member State and a limitation to their freedom to provide services without being established.

Provided that the relevant market is the one for the concerned ccTLD, as TLDs are not substitutable with each other for the reasons highlighted above,[408] ccTLD registry operators hold a dominant position with respect to the assigment of domain names under the ccTLD they are in charge of: obviously, the ccTLD operator is the only supplier of domain names under that TLD, unilaterally deciding the price, the requirements, the timing and so on.

It follows from what has just been said that the registry operator of a national TLD is in the position of abusing and the imposition of residence obligations could indeed be seen as abusive pursuant to Article 82 of the Treaty.

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405 The English version is available at http://www.eenet.ee/services/subdomains.html last visited on 3 November 2004.

406 http://www.domain.hu/domain/English/szabalyzat.html last visited on 3 November 2004.

407 https://www.sk-nic.sk/ last visited on 3 November 2004.

408 See above at page 72 *et seq*.

The precedents of the European courts support the view that the behaviour of escluding non resident or non established registrants can be qualified as abusive under European competition rules. In the *GVL* case, indeed, the Court held that "refusal by an undertaking having a *de facto* monopoly to provide its services for all those who may be in need of them but who do not come within a certain category of persons defined by the undertaking on the basis of nationality or residence must be regarded as an abuse of a dominant position."[409]

Also the European Commission has followed a similar line of reasoning in the *Football World Cup 1998* case,[410] where it acknowledged that the *de facto* monopolist had a *prima facie* obligation to supply customers throughout the EEA without discriminating on the basis of residence, subject to exceptions to be carefully and individually assessed. According to the Commission, this conclusion holds even if the demand from foreign customers was expected to be relatively small as compared to the demand from nationals[411] and even considering that other – arguably less effective – distribution channels were available to them.[412] In this case, restrictive conditions of sale and restrictions of distribution channels for customers that did not have a residence in France was regarded as having "the effect of imposing unfair trade conditions on residents outside France which resulted in a limitation of the market to the prejudice of those consumers."[413]

For what concerns the case of domain names, it is indubitable that one of the main advantages of the Internet is precisely that it allows companies to conduct their business real time, regardless of the location of the undertaking and of its premises. For certain online activities, physical existence is not

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[409] Case 7/82, GVL [1983] ECR 483, para. 56. In this case, the German copyright management society conducted its activities in such a way that any foreign artist who was not resident in Germany was not in a position to benefit from rights of secondary exploitation, even if he could show that the law of some other state recognized the same rights.

[410] Commission Decision of 20 July 1999, 2000/12/EC, case IV/36.888, in OJ 2000 L 5/55. The case concerned the sale of a certain category of entry tickets for the matches of the World Cup: customers were required to have French residence or to provide an address in France.

[411] Decision *Football World Cup 1998* at paragraph 87.

[412] *Ibidem* at paragraph 94.

[413] *Ibidem* at paragraphs 87 and 91.

required at all[414] and physical proximity to the customer is not an issue. Internet existence and Internet proximity (and reach) is, instead, an issue.

As a matter of fact, it seems understandable that a company carrying on its business in a Member State different from the one where it is established, will find the registration of a "local" domain name useful and sometimes necessary in order to facilitate marketing and contacts with clients in that country, as it is reasonable to expect that they will generally look for websites registered under their TLD.

The argument that the non-established company is not prevented from carrying on its business in a specific country, but only from using a domain name under the ccTLD of that country is not conclusive. The European Court of Justice has already recognised that depriving a company of "a rapid and direct technique for marketing and for contacting potential clients in other Member States" constitutes a restriction of the freedom to provide cross-border services.[415] More specifically from an antitrust point of view, the residence obligation puts the foreign company at competitive disadvantage because the extra burden of obtaining an inscription in the local Companies' Registry in order to subsequently obtain a domain name, increases its costs for entering and operating in the market.

The argument that the restriction is objectively justified by the need to protect consumers, because they connect the ccTLD with residence in the concerned country and can therefore be misled is contradicted by several facts. First, it is contradicted by the practice of the majority of the European ccTLD registries' policy[416] that do not require any proof of residence, without fearing to betray consumers' reliance and expectations. The argument is further questioned by the registration policy of some well-known examples of ccTLDs that capture Internet users' attention not certainly for the link with the country they officially "belong", but rather for their distinctive ability. An obvious example is the .tv ccTLD with respect to which it is reasonable to exclude that customers will rely on any link of, for instance www.milionario.tv or

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[414] Besides a computer connected to the Internet and possibly some person at the keyboard.

[415] Case C-384/93, Alpine Investments [1995] ECR I-1141, para. 28. The case concerned a prohibition of making unsolicited telephone calls to (potential) foreign customers for marketing purposes.

[416] See above in the previous sub-section.

www.distrettodipolizia.tv[417] with the Pacific Island of Tuvalu. The claim that consumers rely on the physical existence in a specific country of the company running a website under the ccTLD of that country, seems therefore unfounded.

The related argument of the reduction in the "traceability" of websites operators once the residence requirement is waived can be dealt with by "traditional" international private law, as it happens with activities in the "real" world.[418] In other words, with respect to the traceability issue, it does not seem that a residence/establishment requirement is more justified in the domain names market, than it is in any other market.

Moreover, as mentioned,[419] there are other ccTLDs where a "link" with the country is required to the applicants for registration of a domain name. This obligation is similar to the residence requirement in the aim that is pursued, but, differently from that one, it does not impose any extra burden on companies wishing to conduct their business in the country in question, but to prove this interest.[420] This means that even accepting as an objective justification the necessity of a "connection" between the country and the undertaking in order to obtain a domain name under that country's ccTLDs, there are less restrictive means – such as the prove of a "link" or the existence of a company's contact point within the country – to reach this goal than the residence obligation, which is then, at best, disproportionate.[421]

Yet, the Commission in the *Football World Cup* decision[422] went actually even further, as compared to what has been observed above in the case of the restrictions imposed on ccTLDs registrants: it considered that requiring an address in the country meant in reality to discriminate on the basis of residence, since residents "were significantly better placed" to meet the address

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[417] The websites of the Italian version of the TV show "Who wants to be a millionaire" and of another popular Italian TV show.

[418] The applicable rules could be those solving conflicts of laws, such as the Brussels I Regulation.

[419] See footnote 401 and accompanying text.

[420] See the Irish naming rules available at http://www.domainregistry.ie/RegistrationPolicy.php last visited on 8 December 2004.

[421] See Case C-439/99 Commission/Italy [2002] ECR I-305, para. 30; Case C-131/01 Commission/Italy [2003] para. 45.

[422] Cited above at footnote 410.

requirement. However, in the case that concerns us, to ban also the contact requirement present in the registration rules of same ccTLDs, could be seen as excessive: if a "link" with the country whose ccTLD is concerned is considered a reasonable expectation on consumers' side, than such function could well be fulfilled by providing a contact in that country.

One last point that might complicate the application of article 82 to the case of ccTLD registries, is represented by the different legal status of the registry operator and the nature of the naming rules in each country: for some ccTLDs, indeed, the management of the registration of domain names is attributed to some public authority or entity regarded as being entrusted with the operation of a service of public interest.[423]

In these cases, however, the application of competition rules is not excluded, but reference has to be made to article 86 of the EC Treaty. For the reasons highlighted above, by the nature of the activity carried on by national ccTLD registries, it appears that such registry operators fall within the definition of undertakings for the purposes of EC Competition law.[424] However, because of the fact of being entrusted with the operation of a service that can be considered of "public interest", the applicable test is that competition rules, and therefore article 82, will apply to the public undertaking as long as it does not obstruct the operation of the public service and the accomplishment of the tasks it has been assigned (article 86.2).[425]

In our case, it does not seem that there are grounds for invoking the exception provided for in the mentioned paragraph 2 of article 86: if the residence requirement is found to be abusive, the elimination of this restriction from the registration rules is not capable of obstructing or disrupting the operation of the service: this restriction is not inherent to the performance of the service, but could be rather defined as "ancillary"; indeed, the experience of the vast majority of the ccTLD operators, whether public or private in nature, of not imposing any such requirement, shows that no serious problems are created, by the lack of a residence requirement, in the accomplishment of their tasks.

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[423] For instance, in Spain the competent authority entrusted with the assignment of SLD under .es is the Ente Público de la Red Técnica de Televisión (RED.ES), recognised by a number of laws and decrees.

[424] See above at page 107 *et seq.*

[425] See above at page 56.

CONCLUSIVE REMARKS

In this work I have tried to describe and analyse some problems arising from the current system for the management of the Internet Domain Names System (DNS), which constitutes the gateway to the Internet itself.

Although, in principle, IP addresses are necessary to the functioning of the Internet while domain names, in pure technical terms, are not, nevertheless the former have not generated complex regulatory issues whilst the latter have in fact evolved into a problematic resource. The system as it stands today is organised as a single hierarchical network with a not-for profit American corporation at the top, a number of for-profit and not-for-profit companies running as natural monopolists one or more TLD registries and a few hundred firms operating as registrars of domain names, on behest of end-users, in each of the existing TLDs. Across the three levels of the domain names industry, as they have been described above, several problems emerged from the antitrust point of view: ICANN, at the top of the hierarchy, is the virtual monopolist in the market for root server; there is no effective competition among registry operators; the manager of the .com is in a position allowing it to exercise market power and to put in place behaviours that negatively affect competition, competitors and ultimately consumers; registrars, although quite competitive in the offer of different services to end users, cannot effectively compete on the actual domain name registration services: they pay the same price to the registry operator, they all propose the same dispute resolution procedure; they are prevented from offering or contributing to develop domain names not belonging to the ICANN hierarchy.

From an economic perspective, it has been showed that in the domain names industry no natural monopoly seems to arise, except, perhaps, for the peculiar situation of the operation of each TLDs registry. There are, in fact, strong network effects but they do not constitute an argument in favour of the necessity of a single-supplier market structure, in particular with respect to the level of the root server operation. Nevertheless, there is an argument being put forward that competition among alternative root server operators is detrimental for the stability of the Internet, because the lack of coordination could result in the loss of universal resolvability of domain names, which is considered (although not unanimously) a key feature of the Internet. Relying on this argument, ICANN has assumed, since its creation, a role similar to that of a regulator of market activities: it decides who will operate in the market and

at which level, what will be offered as product and, to some extent, also at what conditions the economic activities should be performed and which interests ought to prevail. It showed overtime to take decisions that advantaged only certain stakeholders – in particular established operators already belonging to its own network; it provided a lot of slow motion and red tape to those dealing with it. However, the whole system is still organised as a private network and thus there is none of the checks and balances that generally exist to control the conduct of a public regulatory agency.

Observing this situation and the kind of behaviour consequently allowed, and relying on the economic analysis of the domain names industry, other arguments support the claim that the risk of losses and abuses perpetrated by the incumbent and by the companies affiliated to its network is greater than the risk of instability due to the existence of alternative root operators that would establish competing but interoperable networks. According to this argument, competition is in fact desirable and would be beneficial under many respects: consumers would have a wider choice of products since there would be many more gTLDs available to register the desired name; prices would no longer be regulated but real price competition would take place; not only the ICANN-accredited registrars would perform a sort of intra-brand competition, but a true inter-brand competition could eventually arise; the problems downstream would also be minimised: the rise of competing networks might effectively reduce also the market power of currently dominant registry operators and the fear of new actual or potential competitors would discipline their behaviour; last, but not least, competition would force ICANN itself to minimise its X-inefficiency and become better responsive to the demand of the market.

If, notwithstanding the gains in consumer surplus, cost savings and innovation, the costs stemming from the lack of coordination caused by the introduction of competition are estimated as in fact being of significant amount, in any case it does not follow that we need a unique supplier. What follows is that we need to ensure coordination. Coordination in the Internet governance is not impossible nor new: as mentioned, there are strong incentives for alternate root operators to coordinate with each other in order to avoid name-collisions;[426] moreover, the thirteen copies of the root

[426] See the analysis in Section II.4.2 above.

servers[427] voluntarily coordinate and comply with ICANN-defined policies thanks to strong professional norms and pressure from market forces as well as political forces; the alternative Europe-based network of root servers ORSN[428] also voluntarily elected to follow ICANN's system and not to act in opposition to it.

If the above described kind of voluntary coordination is not considered sufficient and a more stable and secured system is sought, then this could make the case for proposing a standard of minimum obligations that would restrain the behaviour of the market operators. However, since undistorted competition is generally more preferable, it is important to assure that there are only indispensable restrictions and not more. A much less restrictive (and moreover much less costly) option to the one currently in place is that of assuring a purely technical coordination of the assignment of the slots within the root database, avoiding colliding TLDs. This role could be played by a "reduced" ICANN[429]. Yet, such coordination should not extend to public policy choices: when, the public interest comes in question, then the issue at stakes cannot be solved by competition nor by coordination of private actions, but publicly accountable actors should step in.

Like the examples of voluntary coordination mentioned a few lines above, also this kind of organisation of the DNS is already known: IANA, the "authority" originally in charge of the DNS,[430] has been and still is the technical co-ordinator for the country-code TLDs on the basis of a few parameters. Currently, IANA is managed as a "function" of ICANN, so that the ICANN Board takes action also with respect to IANA. However, since the relationship with national ccTLDs is somewhat more delicate, because it involves issues of Internet identity of sovereign countries, ICANN has not been able to exercise the same kind of "regulatory" power it can afford in dealing with generic TLDs. Also the Council of European TLD Registries (CENTR) has recently stressed the value of a purely technical exercise of IANA functions. The same technical role could be played with respect to all

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[427] See above at page 7.

[428] http://european.nl.orsn.net/

[429] Such kind of commitments could be extracted from ICANN as consequence of an antitrust investigation.

[430] See above in Section I.2.

TLDs, not only when the regulatory powers of national States would directly conflict with those exercised by ICANN.

In other words, there are two possible scenarios that we can imagine in order to minimise the competitive problems analysed in the course of the present work: either ICANN is considered a private corporation that competes with other companies willing to offer the same or comparable services, or it withdraws from the position of a market actor and exercises only a purely technical non-discretionary function of managing the root server database, without engaging in policy making or market regulation, for which it does not have any legitimacy.

In this second case, it could even be accepted as beneficial for society, that the root database of existing TLDs be only one, in order to ensure the highest level of technical coordination, i.e. in order to ensure that no-one will try to insert in the database an entry which is already existing. In such a case a mild form of regulation might be necessary and it would imply the need of granting certain exclusive rights to the manager of such a kind of root database, which would be deprived of additional regulatory-type powers. Moreover, this exclusivity need not be permanent: it can be granted on a temporary basis and then re-assigned through an auction, for instance.

Truly, the current system, as it is designed by the MoU seems already apt to such a change: the agreement with ICANN is only temporary and the US government could in principle withdraw its procurement contract from ICANN. However, so far, the US DoC has always renewed the contract, just revising some of the terms and conditions for the performance of the service; perhaps this is also the consequence of the lack of existing alternative operators to which the DoC, due to the legacy of the White Paper, would be willing to reassign the management of the DNS. Moreover, since the time when the White Paper was issued, the only comprehensive review of the system of the Internet Governance has been undertaken not within the USA administration, but at a different level, namely at the level of the United Nations' WSIS.[431]

Therefore, at the state, it does not seem realistic to expect that the development described above would stem from the will of only the US DoC as ICANN's co-contractor; it would be probably necessary a strong political will

[431] See above at page 19.

at international level in order to achieve the goal of a viable reform of the Internet Governance.

APPENDIX 1. EXISTING GENERIC TOP LEVEL DOMAIN

TLD	Year	Sponsored/ Unsponsored	Purpose	Sponsor/ Operator
.aero	2001	Sponsored	Air-transport industry	Société Internationale de Télécommunications Aéronautiques SC, (SITA)
.biz	2001	Unsponsored	Businesses	NeuLevel
.com	1995	Unsponsored	Unrestricted (but intended for commercial registrants)	VeriSign, Inc.
.coop	2001	Sponsored	Cooperatives	DotCooperation, LLC
.edu	1995	Sponsored	United States educational institutions	EDUCAUSE
.gov	1995	Sponsored	United States government	US General Services Administration
.info	2001	Unsponsored	Unrestricted use	Afilias, LLC
.int	1998	Unsponsored	Organizations established by international treaties between governments	Internet Assigned Numbers Authority
.mil	1995	Sponsored	United States military	US DoD Network Information Center
.museum	2001	Sponsored	Museums	Museum Domain Management Association, (MuseDoma)
.name	2001	Unsponsored	For registration by individuals	Global Name Registry, LTD
.net	1995	Unsponsored	Unrestricted (but intended for network providers, etc.)	VeriSign, Inc.
.org	1995	Unsponsored	Unrestricted (but intended for	Public Interest Registry. Until 31 December 2002, .org was

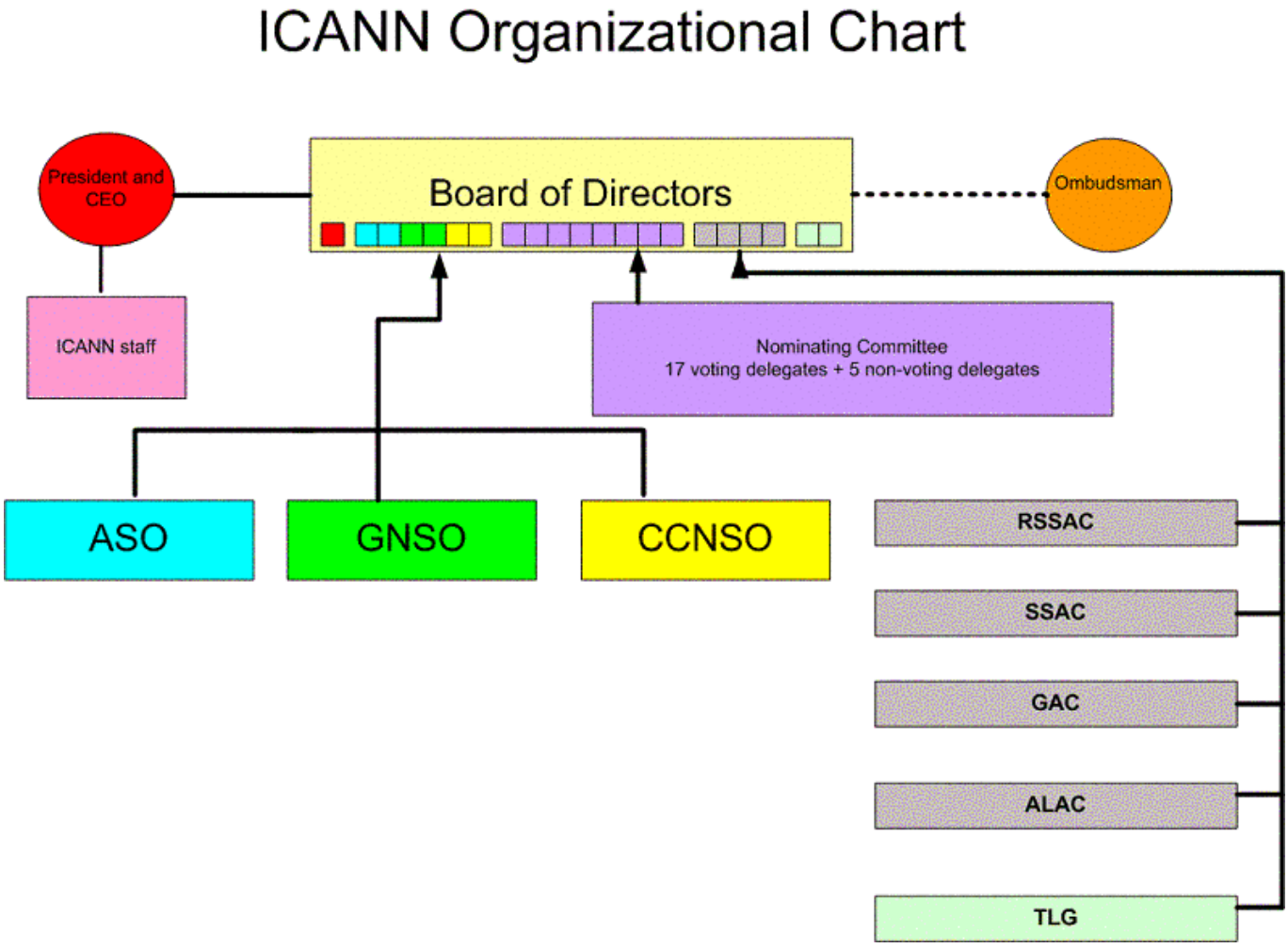
			organizations that do not fit elsewhere)	operated by VeriSign Global Registry Services.
.pro	2002	Unsponsored	Accountants, lawyers, physicians, and other professionals	RegistryPro, LTD

APPENDIX 2 - LIST OF ABBREVIATIONS

ALAC	At-Large Advisory Committee
ASO	Address Supporting Organization
ccNSO	Country-code Names Supporting Organisation
CENTR	Council of European Top Level Domain Registries
DNS	Domain name system
DoC	US Department of Commerce
EC Treaty	Treaty establishing the European Community
ECJ	European Court of Justice
CFI	European Court of First Instance
ECR	European Court Report
EU	European Union
GAC	Governmental Advisory Committee
GNSO	Generic Names Supporting Organisation
IANA	Internet Assigned Numbers Authority
ICANN	Internet Corporation for Assigned Names and Numbers
IETF	Internet Engineering Task Force
ISP	Internet Service Provider
ITU	International Telecommunications Union
MoU	Memorandum of Understanding
NSI	Network Solution Incorporation
RAA	Registrar Accreditation Agreement
RSSAC	Root Server System Advisory Committee
SLD	Second Level Domain
SSAC	Security and Stability Advisory Committee
TLD	Top Level Domain
ccTLD	country code Top Level Domain
gTLD	generic Top Level Domain
sTLD	Sponsored Top Level Domain
TM	Trademark
UDRP	Uniform Dispute Resolution Policy

UN	United Nations
WGIG	Working Group on Internet Governance (UN)
WIPO	World Intellectual Property Organisation
WLS	Waiting List Service
WSIS	World Summit on Information Society (UN)

APPENDIX 3 – ICANN ORGANIZATIONAL CHART



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