

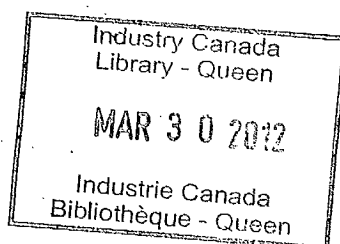


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REFORM OF THE DOMAIN NAME SYSTEM

Current Developments & Statement of Principles



Prepared by Industry Canada

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REFORM OF THE DOMAIN NAME SYSTEM

Current Developments & Statement of Principles

The purpose of this short paper is to report on current developments likely to have an impact on Canadian interests in the reform of the DNS and other Internet-related issues, as well as to outline some of the principles and policy goals developed by Industry Canada on behalf of the Government of Canada. Many of these actions are being undertaken in conjunction with private-sector organizations, a reflection of the government's fundamental goal — to enhance public awareness of the issues and encourage the private sector as it takes the lead role in Internet management.

One of the major challenges in the reform process lies in the sheer speed at which developments are unfolding, especially though not exclusively in the United States. As this paper goes to press, it may be a matter of days before the interim board of the new DNS governing or coordinating body, the "new corporation," has been established (the original U.S. government timetable, as outlined in the White Paper, called for this milestone to be reached no later than September 30, 1998). In order to be as timely and useful as possible, this paper focusses on three areas:

- First, an overview of some recent developments, including a chronology of events.
- Second, a number of general policy principles that the Government of Canada believes must be observed not only in the reform process itself, but also in the long-term arrangements made for management of the DNS.
- Third, an indication of how both Canada and the international community are approaching the resolution of particular issues.

I. Overview of Recent Developments

1. August consultation paper

This paper is a follow-up to the consultation document issued on August 14. That document — *Domain Name System Reform and Related Internet Governance Issues* — provides a detailed analysis of background issues, including how the DNS operates, why changes to the system are being debated and what effect these changes are likely to have on broad areas of Internet activity, especially electronic commerce (the document also includes a glossary of technical terms). This detailed material is not revisited here. Readers wishing to review the background, and an issue-by-issue description of what is at stake in the reform process, will find the consultation paper at: <http://e-com.ic.gc.ca/english/651d1.htm>.

The consultation paper provided an opportunity for interested parties to respond with comments about various facets of the reform process. Because of the timetable set by the U.S. government, the comment period had to be kept relatively short.

Nevertheless, Industry Canada received useful feedback on a number of points, both directly from individuals and organizations, and indirectly through the Ad Hoc Committee on the Domain Name System and Related Internet Governance Issues. The Ad Hoc Committee, whose seven members represent a wide range of Internet-related interests from the business, intellectual property and educational communities, have reported to Industry Canada that the preponderance of reactions they received to the consultation paper has been very favorable.

2. Proposals for a new body

The debate on DNS reform has been heavily influenced by the release over the summer months of two major proposals for the initiation of the reform process. One of these, known as the "New IANA," was prepared and circulated by IANA (the Internet Assigned Numbers Authority) under the direction of Jon Postel. The third draft of this proposal (IANA 3) was posted in late August and reflected a number of changes in response to comments and criticisms from the interested parties <http://www.iana.org/description.html>.

The other proposal was the work of NSI (Network Solutions, Inc.), which attempted in part to reflect views of participants in the IFWP (International Forum on the White Paper), the ad hoc coalition of Internet stakeholder groups which met through the summer internationally to discuss the U.S. White Paper <<http://www.ifwp.org>>. Both proposals were essentially blueprints for the new corporation, incorporating a set of by-laws for a corporate structure, board membership and functions, including those of various councils or committees.

In a significant turn of events on September 17, these two models were essentially merged into one consensus proposal --- the Internet Corporation for Assigned Names and Numbers (ICANN). Described by its co-sponsors as a "cooperative effort by IANA and NSI," this new proposal offers both articles of incorporation and bylaws for the new DNS corporation. It borrows heavily from IANA 3, while reflecting further attempts to accommodate criticisms of shortcomings in the IANA model.

3. Parallel tracks

In trying to understand the developments noted above, it may be helpful to recall the parallel processes underway both domestically and internationally. In Canada, the consultation undertaken in connection with the DNS has been paralleled by a similar process focussed on the .ca name space, led by a private-sector group, the Canadian Domain Name Consultative Committee (CDNCC). Since overall DNS reform will likely have an impact on changes to .ca management, the government is monitoring all relevant developments closely. (Further details below.)

Internationally, a number of formal and informal consultations and organizational meetings have been taking place. These include, among others, the meetings organized by the IFWP and the inquiry established by the World Intellectual Property Organization (WIPO), based in Geneva, whose purpose is to solicit recommendations on the trade-mark and other intellectual property issues associated with the DNS. (Further details below.)

4. Chronology of events

In order to provide a quick picture of how events are unfolding, the following chronology indicates some of the milestone events in the DNS reform process over the course of this year. As a convenience, some other notable dates are included (set off in italics).

Feb. 20	Release of U.S. Green Paper on DNS reform
<i>Feb.-March</i>	<i>Public consultation on .ca name space led by CDNCC</i>
March 4	Industry Canada hosts public meeting on U.S. Green Paper
May 11-12	Industry Canada participation in Net 98 conference
May 12	Formal Industry Canada response to U.S. Green Paper
June 5	Release of U.S. White Paper on DNS reform
June 19	1st meeting of Ad Hoc Committee on the Domain Name System and Related Internet Governance Issues
June-July	Preparation of Industry Canada DNS consultation paper
<i>July 8</i>	<i>Publication of WIPO RFC-1</i>
July-Aug.	IFWP international meetings
Aug. 14	Release of Industry Canada DNS consultation paper
Sept. 8	Deadline for comments on DNS consultation paper
Sept. 10	2nd meeting of Ad Hoc Committee on DNS
<i>Sept. 17</i>	<i>Publication of WIPO RFC-2</i>
Sept.	Preparation of Industry Canada DNS information paper
<i>Sept.</i>	<i>Anticipated release of CDNCC report on .ca name space</i>
Sept. 30	U.S. White Paper deadline for new corporation to be established

II. Policy Goals & Principles for the Reform Process

As discussed in the consultation paper, the reform process poses several challenges: the fact that the process was initiated by the U.S. government but is only indirectly under its control; the international nature of the issues to be addressed; and, as noted above, the speed at which decisions are being taken by many of the interested parties. While these factors have made it difficult to formulate expeditious solutions to individual issues, the Government of Canada believes a number of general concepts should be kept in mind as the reform process unfolds.

1. Scope of initiatives

At the most general level, the government wishes to see Canadians participate in and benefit from all aspects of the Internet business. While this naturally includes endeavours directly related to the DNS, like registrar and ISP services, it also includes a much wider range of e-commerce applications. One of the chief goals of the DNS consultation, and the mission of Industry Canada's Electronic Commerce Task Force, is to bring these wider opportunities to the attention of Canadians.

From an even broader perspective, however, the government wishes to ensure that the full benefits of computer networking will be enjoyed in Canada — not only those related to entrepreneurial activities, but to education and distance learning, telemedicine, cultural promotion, social activism, community development and so on. These goals all form part of Industry Canada's "Connectedness Agenda."

2. Principles to be observed

A number of basic principles will form the foundation for any future activities of the government. Those described below are meant to be indicative only. Others will be formulated by the government in cooperation with industry representatives and others as analysis of particular issues proceeds in the coming months.

- i) The Domain Name System, along with other enabling elements of electronic commerce, should rely on market forces, self-regulation and competition to the greatest possible extent. For its part, the Canadian government will make every effort to facilitate opportunities for the private sector.
- ii) The framework for DNS management should provide for efficient and cost-effective operation and registration, which are responsive to the needs of end-users and result in cost-oriented pricing.
- iii) Canadians involved in the operation of the DNS — and more broadly in electronic commerce — should enjoy a system free of unreasonable barriers to entry for new players.

- iv) Canadian registrars, ISPs, corporate and individual end-users, and other parties should have fair and efficient access to IP addresses and routing arrangements, while respecting global arrangements for robust international connectivity.
- v) The new DNS system should employ the best possible naming procedures for efficient identification and access, for both commercial and law enforcement purposes, so that familiarity, ease of use and the mnemonic benefits of the name space are preserved and enhanced. While this goal might be achieved by gradual resort to new generic Top Level Domains (gTLDs), it should also make imaginative use of directories and other supporting resources.
- vi) The process of applying for names should be quick, easy and inexpensive. At the same time, the government recognizes that any new system, whether in the gTLD space or the country code space, should have policies in place to reduce conflicts between persons granted domain names and other rights holders, including owners of trade-marks or business names. The CDNCC has specified that policies and procedures to reduce these conflicts and minimize the need for recourse to the courts will be carefully considered by the board of the new .ca registry, in consultation with the government and the intellectual property community.
- vii) Any new DNS governing or coordinating body should place the highest priority on international representation, accountability and diversity at the board of directors level, as well as at the committee or council level.

3. Decision-making & accountability issues

Because of their crucial importance to the success of the reform process, some further comments are offered here on this last principle concerning the new governance arrangements.

From the perspective of the Government of Canada, one of the most important goals of the reform process continues to be creation of a DNS coordinating body, the "new corporation," that will at a minimum be truly accountable and representative. It is clearly not enough for the U.S. government to ensure merely that it has "privatized" the DNS — i.e. divested U.S. government

agencies of control of DNS functions and placed control in the hands of a "private sector" group. The White Paper itself set a higher standard than this, and such bare-bones privatization will certainly not meet the needs of most end-user groups or of the international community.

A brief mention was made earlier of the latest proposal for a new corporation, brought forward in a joint effort by IANA and NSI — the Internet Corporation for Assigned Names and Numbers (ICANN). The government acknowledges the importance of moving ahead as soon as possible with a well-developed plan that can capture consensus support. Regardless of the particular features of the proposals being debated, the corporate model finally agreed to by the U.S. government should conform to widely supported principles of accountability and transparency.

Given the basic goal of privatization, the role of governments in the transition process to a new governing body is naturally fairly limited (though it should be noted that the ICANN proposal contains a provision for creation of a Governmental Advisory Committee). This makes an active role on the part of Canada's private-sector interests all the more important. Canadians with a stake in governance or management issues should also recognize that there is a role for them to play not only in the initial transition, but even more so in the long-term operations of the new body.

III. Progress on the Issues

The consultation paper suggested that DNS reform and the related issues do not lend themselves to quick or uniform solutions. Even though the focus of attention right now is on the new body and its structure, the Government of Canada and other parties, including international organizations, are grappling with other aspects of reform in a variety of ways. While some of these have been noted above, a few more details are provided here to indicate what problem-solving techniques are being applied both domestically and internationally.

1. The .ca & .us reviews

The Canadian examination of DNS reform and the .ca name space have been undertaken in two separate lines of inquiry. Nevertheless, it is difficult to separate the implications of the .ca review from DNS reform, just as the overall DNS reform process is likely to have effects on the long-term use and management of country codes, including the .ca space.

The DNS consultation paper noted that "significant effort is being put towards balancing the need for a system compatible with the open, international nature of the Internet, with the objective of keeping the .ca domain a resource owned and controlled by Canadians for Canadians." Public consultations were held last spring on the proposed changes to the management of the .ca space by the Canadian Domain Name Consultative Committee (CDNCC), on which the government has observer status. The government is not otherwise involved in the management of the .ca domain name space, which is run on a volunteer basis by John Demco of the University of British Columbia with the assistance of the .CA Committee.

Nevertheless, the government is currently acting in an advisory capacity on transitioning the management of the .ca space to a not-for-profit registry that will operate on a cost-recovery basis. The government has conveyed to the CDNCC its support of the CDNCC's proposed framework for the new .ca DNS. The government has also encouraged the CDNCC to move as quickly as possible to establish and operationalize the new registry (CIRA). This new registry will utilize the services of ISPs and others in the Internet industry to carry out registration activities for end-users. See <www.cira.ca/> for further details on the CDNCC process.

In a parallel development on August 3, the U.S. government issued a formal *Request for Comments on the Enhancement of the .us Domain Space*, a process the Canadian government sees as potentially important for the future of country code domain names in general, not just the .us space. The deadline for the filing of public comments is October 5. The current round of comments is to be followed by at least one more RFC on the evolution of the .us space. One of the issues involved is the claim that greater commercial use of .us will relieve pressure on the .com gTLD and reduce conflicts between American and non-American registrants. The Canadian government will be watching these developments closely for their international implications. It urges Canadians with a stake in this process (e.g. those conducting business in the United States)

to make their views known to the NTIA. The RFC and further details can be found at <http://www.ntia.doc.gov/ntiahome/domainname/usrfc/dotusrfc.htm>.

2. Competition & competition policy

Generally speaking, the Domain Name System and other elements of the Internet operate on a highly centralized basis. As long as the end-user community was fairly small and homogeneous, and traffic essentially non-commercial in nature, such centralization, with little or nothing in the way of accountability mechanisms, was acceptable to most participants. This is no longer the case. The greatly expanded use of the Internet, the far more heterogeneous nature of the user population and the increasing preponderance of commercial activities, all mean that a new system of management must be competitive in fact as well as in name.

The Canadian government has stated clearly in the consultation paper that it supports a competitive environment in the management of the DNS. At the same time, the government and other parties recognize that this general principle raises many issues of implementation. Some of these have to do with the applicability of U.S. antitrust laws to the conduct of the new corporation (the White Paper suggested antitrust law should apply to the conduct of the new corporation), as well as the applicability of Canadian competition law to activities of the new corporation in Canada. Without appropriate anti-competitive safeguards, the government sees several possible problems arising from the activities of the new corporation. For example:

- Too much concentration of power within the new corporation may lead to abuse of existing market power by entrenched players, who could use their position to dominate e-commerce.
- If technical standards are developed and implemented by the new corporation without representative consultation of end-user groups, these standards could be used as barriers to entry against new players.
- There is a risk of abuse of intellectual property rights if such rights are recognized over domain names, which could place inappropriate constraints on competition.

The government will be studying the role to be played in the reform process by competition policy in the months to come.

3. Dispute resolution

As mentioned above and in the consultation paper, WIPO (the World Intellectual Property Organization) is moving ahead with an international inquiry that will address several DNS-related issues. WIPO issued an initial Request for Comments (RFC-1) on July 8 to gather comments from interested parties on the proposed terms of reference of the inquiry <<http://wipo2.wipo.int/process/eng/processhome.html>>. WIPO has now collected these comments and issued its second Request for Comments (RFC-2). Through its RFC-2, WIPO has invited interested parties to comment on four areas of concern: dispute prevention, dispute resolution, process for the protection of famous and well-known marks in the gTLDs, and effects on intellectual property rights of new gTLDs. The deadline for comments is November 2. The Canadian government strongly endorses the search for alternative dispute resolution mechanisms, and notes that they can have an important role to play not only in reducing the burdens associated with trade-mark disputes, but also in a whole range of activities and practices developing around DNS reform and electronic commerce.

This inquiry is a good example of international action undertaken using a consultative or study approach, one which was originally recommended by the U.S. White Paper and has received broad consensus support in the interim. WIPO has appointed a panel of experts (including at least one Canadian) to conduct wide-ranging hearings in a dozen countries, before submitting a final report in March, 1999. Although WIPO usually conducts its business on a government-to-government basis, this inquiry is geared to private sector participation and contributions are welcome from individuals and organizations alike. The government encourages Canadians to play an active role in this inquiry wherever possible.

4. Addressing

During the consultation process on the DNS, a number of questions arose concerning IP addressing and the role of the regional registries. The consultation paper noted that the international debate has sometimes downplayed these issues in favour of the name space itself, where conflicts and governance issues are generally more visible. Some of the IP-related

questions concern allocation and conservation of IP numbering resources. Special attention may now need to be directed towards the impending implementation of IPv6. Other questions concern how the prospect of possible changes to the operations of regional registries, especially ARIN, will affect Canadian interests and their opportunities for participation.

One measure noted in the consultation paper which has been the subject of some discussion is the eventual repatriation of IP addressing to Canada. Although this measure may not come to fruition in the near term, the government understands that the costs and benefits of repatriation are currently being studied by a number of private-sector interests.

The Government of Canada intends to maintain its watching brief in connection with the entire DNS reform process. In order to promote the overall goals of enhancing public awareness and encouraging private-sector initiatives, it will from time to time publish Web links and other guides to relevant Canadian and international sources of information.

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