CHALLENGES AND OPPORTUNITIES FOR THE INTERNET IN CANADA
The Canadian Internet Registration Authority (CIRA) is the organization that manages the .CA domain space on behalf of all Canadians.

This report should be cited as follows:
Canadian Internet Registration Authority. September 2012. Ottawa: Author.

For queries or copyright requests, please contact:
Canadian Internet Registration Authority
350 Sparks Street, Suite 306
Ottawa, ON K1R 7S8

Tel: (613) 237-5335
E-mail: communications@cira.ca
Website: http://cira.ca
INTRODUCTION

Canada is a digital nation. Canadians’ Internet usage is nearly double the worldwide average, according to a comScore white paper released in March 2011. And, Canadians watch more than twice the international average for online video.

**Average Hours/Visitor/Month**

<table>
<thead>
<tr>
<th>Country</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>12</td>
</tr>
<tr>
<td>China</td>
<td>14</td>
</tr>
<tr>
<td>Japan</td>
<td>18</td>
</tr>
<tr>
<td>Russia</td>
<td>22</td>
</tr>
<tr>
<td>Germany</td>
<td>24</td>
</tr>
<tr>
<td>Brazil</td>
<td>26</td>
</tr>
<tr>
<td>France</td>
<td>27</td>
</tr>
<tr>
<td>South Korea</td>
<td>28</td>
</tr>
<tr>
<td>UK</td>
<td>32</td>
</tr>
<tr>
<td>U.S.</td>
<td>35</td>
</tr>
<tr>
<td>Canada</td>
<td>44</td>
</tr>
</tbody>
</table>

**Hours watching online videos**

<table>
<thead>
<tr>
<th>Country</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>4</td>
</tr>
<tr>
<td>Australia</td>
<td>7</td>
</tr>
<tr>
<td>China</td>
<td>7</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>10</td>
</tr>
<tr>
<td>Singapore</td>
<td>11</td>
</tr>
<tr>
<td>France</td>
<td>12</td>
</tr>
<tr>
<td>Japan</td>
<td>13</td>
</tr>
<tr>
<td>U.S.</td>
<td>13</td>
</tr>
<tr>
<td>UK</td>
<td>15</td>
</tr>
<tr>
<td>Canada</td>
<td>17</td>
</tr>
<tr>
<td>Germany</td>
<td>19</td>
</tr>
</tbody>
</table>

Source: comScore, 2011
Canadians’ interest in the Internet is also reflected in the rapid growth of the .CA domain. Since the Canadian Internet Registration Authority (CIRA) began managing the .CA registry in 2000, .CA has become one of the world’s fastest growing Internet country code top-level domains (ccTLD) with almost two million registered domain names. .CA is the fifth fastest growing TLD in the world over the past five years.

Despite this obvious interest in the Internet, Canadians have generally had limited exposure to how the Internet is governed or administered. CIRA created the Canadian Internet Forum (CIF) to engage Canadians in a dialogue about the current and future state of Internet governance and a broader range of topics that reflect both the opportunities and challenges of the Internet for Canadians.

The CIF is inspired by the global Internet Governance Forum (IGF) that has taken place annually since 2006. The IGF is a United Nations-organized venue for discussing issues of Internet governance. Inspiration was also drawn from several regional and national IGFs that have sprung up around the world, including in the United States, West Africa, France, and the United Kingdom, among many others.

The CIF falls under the umbrella of CIRA’s Community Investment Program, or CIP. As part of CIRA’s stewardship of the .CA domain space the CIP has been created to develop, carry out and/or support Internet-related activities in Canada, particularly those which advance the social and economic landscape. Industry Canada had also encouraged CIRA to lead the way in putting together a Canadian Internet governance forum, as it is in line with CIRA’s corporate object to develop, carry out and/or support Internet-related activities in Canada.

In 2010-11, CIRA held the first-ever CIF, involving six face-to-face consultations across Canada and an online discussion forum on the broad topics of digital economy and digital literacy. It culminated in a national event held in Ottawa and webcast across the country in February 2011. The full results are summarized in a report entitled The Internet and Canada’s Future: Opportunities and Challenges. This document is available here: http://cira.ca/knowledge-centre/white-papers/.

Participants in the first CIF showed a keen interest in continuing the forum. As stated in the report from the CIF, “The discussions suggested that the fast evolving nature of the Internet requires all stakeholders not only to position themselves to leverage the opportunities it offers, but also to cooperate in the development of innovative, multi-stakeholder governance approaches to the challenges it raises.”

CIRA co-ordinated the 2012 CIF to maintain that momentum and interest in Internet governance.
METHODOLOGY

To identify the issues that would form the discussions in the 2012 CIF, CIRA contracted Nanos Research to conduct a random telephone survey between August 29 and September 1, 2011, offered in English and French, of 1,210 Canadians. The survey consisted of four open-ended questions. The margin of error for a survey of 1,210 Canadians is ± 2.8 percentage points, 19 times out of 20. A copy of the survey is included in Appendix A.

To broaden the discussion in the 2012 CIF, CIRA worked with an external agency in the summer of 2011 to develop a robust online consultation tool and move the CIF online. This was a recommendation made in the 2011 CIF, and allowed CIRA to engage a much wider group of Canadians in the discussions. Furthermore, there is a ‘natural’ fit to hosting a dialogue about the Internet on the Internet.

‘Official’ topics posted to the discussion forum were informed by the survey conducted in August 2011. Users were able to comment on existing topics, ‘like’ comments and create their own topics.

The online consultation was open from November 10, 2011 to February 12, 2012, meaning it was open for a total of 95 days. During that period, there were:
- 3,257 visits in total.
- 106 registered users.
- Four ‘official topics’ created.
- 13 ‘community-identified topics’ created.
- 80 comments.

The 2012 CIF culminated in a national, webcast event held in Ottawa on February 27, 2012. The event featured panel discussions, a keynote speaker and presentation and discussion of the findings of the CIF. A total of 434 people participated in the CIF event.

KEY FINDINGS

CIRA took a phased approach to the 2012 CIF:

Phase 1: Research

From August 29 to September 1, 1,210 Canadians were asked four open-ended questions to gauge their knowledge of and interest in Internet governance-related issues:

1. What do you think is the main challenge, in general, to the success of the Internet in Canada today?
2. What do you think is the main opportunity, in general, for the success of the Internet in Canada today?
3. In your day-to-day use of the Internet, what do you believe is your greatest personal obstacle?
4. What personal benefit do you believe the Internet offers you in your day-to-day use of it?

These questions were developed to get Canadians to identify and think about the opportunities and challenges the Internet faces, both on a macro, nationwide level, and on a personal, day-to-day usage level.

The results from the survey made it clear that Canadians do not put a lot of thought into how the Internet is run. Like hydro or telephone service, it is not something you think about until you lose access to it. When asked, unprompted, what the main challenge of the Internet was in Canada, 60 per cent of respondents were able to articulate a challenge, detailed below. Interestingly, 40 per cent of surveyed Canadians could not articulate a challenge. Furthermore, when asked, unprompted, what the main opportunity for the success of the Internet in Canada was nearly half of all surveyed Canadians answered that they were unsure. And, when asked about their greatest obstacle related to day-to-day usage of the Internet, nearly one-third of Canadians did not identify an obstacle.

Survey responses CIRA did receive can be broadly grouped in the following four categories:

1. Challenges to the success of the Internet in Canada.

Participants in the survey were asked, unprompted, what the main challenge of the Internet was in Canada. Sixty per cent of respondents were able to articulate a challenge, and their responses were very practical. Internet security and accessibility have consistently been high profile issues for Canadians. This was clearly demonstrated in the findings of the 2011 CIF, and is again reflected in the results of this survey. One in ten Canadians (10.7 per cent) said security was the...
Internet’s main challenge and a further one in six respondents accessibility (9.7 per cent) or cost (7.1 per cent). These results are presented visually in the following word cloud:

Four in ten (40.1 per cent) respondents could not articulate a challenge.

Opportunities for the success of the Internet in Canada.

When asked, unprompted, what the main opportunity for the success of the Internet in Canada was, half of all surveyed Canadians answered that they were unsure. Better access and cost were again among the top responses (9.2 per cent), followed by access to a wealth of information (5.2 per cent), improved communication (5.0 per cent), business and marketing opportunities (4.9 per cent), and education (3.8 per cent). These results are presented visually in the following word cloud:

Obstacles faced by individual users of the Internet in Canada.

On their greatest obstacle related to day-to-day usage of the Internet, slightly more than half (53.3 per cent) of surveyed Canadians identified an obstacle. One-third of Canadians (31.9 per cent) were unable to identify an obstacle, and one in five (17.5 per cent) said out right there was no obstacle at all. The results also raised another prominent theme at the 2011 CIF. Digital literacy, particularly in regards to online privacy, has been a growing issue among Canadians in recent years. This was largely reflected at the 2011 CIF, as well as a need to offer public education. The results of this survey underline that this is still an issue of high importance to Canadians. The top unprompted response to daily obstacles to usage of the Internet was lack of digital literacy (9.1 per cent) followed by speed of the Internet connection (6.6 per cent). These results are presented visually in the following word cloud:

Personal benefits for users of the Internet in Canada.

Participants were asked to provide what they believed were the personal benefits the Internet offers on a daily basis. Canadians’ top unprompted personal benefit of the Internet was access to information/knowledge (32.0 per cent), followed by communication/staying in touch with people (16.8 per cent) and education and research (8.1 per cent). Canadians had a comparatively better idea of what to answer to this question, as less than one in six (14.2 per cent) respondents did not identify a personal benefit of the Internet.
These results are presented visually in the following word cloud:

communication/staying access news education info/knowledge security research

A full report on the survey can be found here: http://cira.ca/assets/Documents/Publications/challenges-opporunities-canada.pdf

Phase 2: Online Forum
The online forum was open for 95 days and generated 80 comments by the 106 registered users. The results of this survey were grouped under the following broad thematic areas and were used to stimulate discussions in the 2012 CIF discussion forum:

1. Challenges of the Internet, including the following:
   a. Security and safety on the Internet: including topics such as stability and security of the Internet, viruses, spam, and cyber-crime.
   b. Access and cost: including topics such as accessibility, high speeds and reliable connections, and Canada’s technical infrastructure.
   c. Digital literacy: including topics such as privacy, parental controls, educating people how to use the Internet, lack of digital literacy, and language barriers.
   d. Policy and governance: including topics such as regulating content, general regulation of the Internet, and net neutrality.

2. Opportunities for success of the Internet, including the following:
   a. Education/digital literacy: including topics such as privacy, education, and research.
   b. Digital economy: including topics such as business and marketing opportunities, jobs, and online banking.
   c. Communications: including topics such as improved communications, access to information and knowledge, global connections, and social media and networking.
   d. Technology and regulation: including topics such as regulatory/privacy/security issues and wireless technology/progress.

These were the ‘official topics’ and were the busiest with more than 70 comments on topics generated. Forum users also generated their own topics, including the following:

• Literacy and what it means.
• Programming skills.
• Making these ideas happen through political action.
• Digitizing books.
• Entertainment.
• Freedom.
• Upload speeds.
• How social media affects our happiness.
• Plan B, a post about the possibility of a total breakdown or failure in Internet availability.
• Internet crime.
• Canadian sovereignty online.
• The platform for the Online Party of Canada.
• Security and privacy.

All of these topics, official and user-identified, can be categorized in the following high-level topics:

1. DIGITAL LITERACY

“Canada is falling behind other counties in ensuring its citizens have the digital literacy skills they need to take advantage of the opportunities of digital media. These skills need to be taught from an early age in our education systems — and that’s not happening.”

CIF discussion forum comment.

CIF participants expressed that while access to the Internet is important, it is only the start to the development of Canada as a global digital leader. The real challenge is getting Canadians to use the Internet effectively, efficiently and safely and securely. Digital literacy was seen to be the critical factor in achieving this.

There was also a general consensus that it is imperative to identify a common definition for digital literacy. While some users equated digital literacy with media literacy, others spoke of the need for technical skills, like...
how to update software and install anti-virus software, as critical to staying safe online.

Finally, digital literacy was generally viewed as something that is learned throughout your lifespan, not just for youth.

2. INTERNET POLICY AND RESEARCH.

“We need a new model, where the provision of internet access is de-linked from content, and where the primary goal is to provide the fastest service at the lowest overall cost to the most people.”

*CIF discussion forum comment.*

CIF participants discussed Internet policy and research in the discussion forum. Comments ranged from the necessity to conduct research into community-based Internet service needs to calling for the development of a central authority to register complaints about and report malicious activity online.

Some of the comments about the challenges to the success of the Internet in Canada included the inherent problems with Internet service providers also acting as content provider, and a perceived monopoly held by a few service providers. This is believed to result in costly and poor quality service, and act as a disincentive for service providers to make investments in technical infrastructure like data centres.

A number of participants called on the government to keep the Internet free and accessible, purporting that the less regulation on the Internet, the better. Other identified issues included the need for Canada to prepare for the continued functioning of the Internet in the event of a significant service disruption, and the challenges in finding and recognizing computer programmers, as their training has not necessarily been achieved through university/college.

3. THE INTERNET AS A RIGHT.

“Yes, DO advocate for the Internet as a human right. It is becoming more “required for life” every day. Every responsible adult should have free and fast access. Sort of like getting a drivers’ license.”

*CIF discussion forum comment.*

“I totally agree with Vinton Cerf that Internet access is NOT a human right, not only because it’s more of an enabler, tool or technology (a means to an end), but more importantly because if we set our standards this low to include things like hybrid cars and mineral water (instead of freedom to travel and clean water), human rights will no longer be universal and our high ground more difficult to hold, leaving “freedom fighters” with an impossible mission to accomplish.”

In January 2012 Vint Cerf, who is widely regarded as the godfather of the Internet, published an op ed in the New York Times [http://www.nytimes.com/2012/01/05/opinion/internet-access-is-not-a-human-right.html?_r=1&pagewanted=all ]. In the op ed, Cerf asserted that access to the Internet is not a human right. This assertion resulted in a spirited discussion in the CIF forum. When the question was posed ‘should Internet access be considered a human right’, comments were equally divided on the pro- and anti- sides.

The forum participants in favour of considering access a right claimed that the Internet has become so pervasive in our society; it is simply required for life now. The fact that the right to communicate is already recognized, and the fact that the Internet has become, for some, necessary to communicate, necessitated for some its recognition as a human right.

Those against the cited the fact that it would be a bureaucratic nightmare, as lawsuits based on issues like throttling or bandwidth caps would become commonplace. The detractors also said that the Internet is a tool or a means to an end, and is therefore not a right. Furthermore, it is a technology, and will then be obsolete at some point.

4. CANADIAN SOVEREIGNTY ONLINE.

In light of a couple of incidents of the American government seizing domain names for websites suspected of engaging in activities contrary to copyright law, a topic was created by community members that called on a number of organizations, CIRA included, to ensure that Canadians retain the right of digital self-determination. This included the development of technical solutions to ensure domain seizures do not happen. The authors also called on CIRA to invest in raising awareness about the threats facing the Internet and the domain name system, or DNS.

5. ACCESS, SPEED AND COST.

“Internet access is not available at reasonable prices, or reasonable speeds or even at all in many places in the country. Canada’s economy will be damaged because of our third world access and speeds, leaving many businesses uncompetitive.”

*CIF discussion forum comment.*
“I see that rural Canadians will lag far behind the urban cities. Very few of the larger corporations feel they need not bother with smaller towns and cities. As a result the cost of the Internet is very high and the speed very slow. In my case the lone provider said that the coaxial cable was too old and they could not connect me at all.”

CIF discussion forum comment.

CIF participants raised issues of cost, slow speeds and latency as major issues for Canada. And though mobile was identified as a solution to Internet access, it was seen to be very expensive in Canada.

There is a clear belief that Canada suffers from an urban/rural divide with regard to access and speed. Urban centres are seen to have better, faster and cheaper access than rural or remote areas. Though the Internet can be a great facilitator of economic development, it is really limited to certain areas of the country, specifically urban centres.

One commenter stated that “The more Canadians with access to the Internet, the more successful Canada will be as a whole,” really underlining the need for broad-based access for all Canadians.

6. COPYRIGHT.

“The problem is: how do you compensate artists?”

CIF discussion forum comment.

In the months leading up to the CIF, copyright and the Internet had been common topics in the media. For example, it had only been a short while since the widely reported online protest against the Stop Online Piracy Act, or SOPA. It came as no surprise, then, that forum participants wanted to talk about copyright legislation and its potential to censor the Internet. Commenters stated it will be necessary to rethink the current economic model for compensating artists, stating that the current model does not work in the current digital world.

7. SECURITY.

“Internet security threats are not concrete enough to the general Internet using public. How high is the threat, really? What could actually happen to someone?...and DOES this stuff actually happen? Do you have a higher chance of being hit by lightning than you do to have someone actually capture your online banking info and drain your account? People don’t have answers to these questions.”

CIF discussion forum comment.

The majority of comments in the forum were related to the necessity of educating the average Internet user about threats online and how to stay safe. One commenter stated that they did not believe that online threats seemed concrete enough to the average user. Online threats seem detached from the real world, so are therefore not considered with the weight they should be. Another comment stated that we need to teach common sense to average users and not teach them to be fearful of the online world.

All forum commenters on this topic agreed that crime on the Internet needs to be stopped, and some felt that Canada should take a leadership role in eradicating online crime. Again, users underlined the importance of security, as it is the key to trust online — trust is critical to the effective and efficient function of Internet transactions.

8. THE INTERNET AS AN ECONOMIC DRIVER.

“The internet lets any small business go international from anywhere in this country. I’ve heard of small remote places in Quebec who started sites for tourism and other local based activities. Without the internet this simply would not happen.”

CIF discussion forum comment.

There were a number of comments in the forum about the Internet as an economic driver for Canada. The Internet is a tool that enables any business, located anywhere in the country, to bring their business to an international market. It is also an enabler of innovation. One of the community-identified topics raised the potential the Internet offers to Canada’s entertainment industries, as a medium for communication and marketing.

Phase 3: National Event:

On February 27, 2012 a national event was held in Ottawa and was webcast. The daylong event was attended by 434 people including representatives from the public and private sectors, academia, non-governmental organizations, and other engaged .CA stakeholders. An agenda for the event is included in Appendix A. The opening address was provided by Marta Morgan from Industry Canada. Marta’s talk covered three topics:

1. Global Internet developments.
2. What has happened in Canada over the past year with regard to the Internet.
3. The multi-stakeholder model for Internet governance.
The Internet is too big, too complex and the speed of change is so rapid that no one entity in society can control it.”
— Marta Morgan, Industry Canada

Internet governance is not generally a ‘top-of-mind’ issue for many Canadians, nor is awareness and understanding of Internet-related issues high (as was evidenced by the findings of CIRA’s survey). The intent of the CIF event is, for that reason, twofold:

1. To present and discuss the findings from the survey and the online discussion forum.
2. To educate participants about the Internet governance ecosystem and the current issues.

To facilitate the latter, two panels were held in the morning to ‘set the stage’ for the day’s discussions.

“The choices we make now are going to make an enormous impact.”
— Michael Geist, University of Ottawa

The first panel included the following panellists:

• Steve Anderson, Founder and Executive Director, OpenMedia.ca
• Captain Frédérick Gaudreau, Sûreté du Québec
• Dr. Michael Geist, Law Professor, University of Ottawa
• Jane Tallim, Co-Executive Director, Media Awareness Network

The theme for the panel was ‘the opportunities and challenges of the Internet in Canada’. This panel was provided with the results of the survey, and discussed the state of the Canadian Internet based on their area of expertise. Topics ranged from digital surveillance and related legislation to digital literacy and the need to protect children and youth online. Broadband access and cybercrime were also discussed.

“If adoption and not just access is our goal in Canada, then we really need to support the development of the knowledge and skills that Canadians need to have confidence to go online.”
— Jane Tallim, Media Awareness Network (now known as Media Smarts)

A second panel discussion between Internet governance experts was also held. Panelists included Byron Holland, President and CEO of CIRA, Bill Graham, ICANN Board member, and Bertrand de LaChappelle, Program Director, International Diplomatic Academy and ICANN Board member. Panellists discussed and explained Internet governance structures, twas well as the current domestic and international issues. A strong emphasis was placed on the need to preserve the multi-stakeholder model that is currently used to govern the Internet.

Bertrand de LaChappelle also presented his current research project examining Cross-Border Internet and National Jurisdictions. He addressed three issues:

1. Is the Internet becoming victim to its own success?
2. Is the traditional system we are for governance using reaching its limit?
3. Are we witnessing the emergence of a new geography for cyber-space?

A keynote address was delivered by author, entrepreneur and television celebrity Robert Herjavec. Hejavec’s presentation attempted to answer the question, what does the future of the Internet look like?

The results from the survey and online consultation were presented in the afternoon by Holland for discussion. After presenting the findings, there was ample time for the delegates to discuss issues of importance.

“The Internet has become the driver for a new knowledge based economy, and has really radically altered the ways in which we communicate with each other.”
— Byron Holland, CIRA.

The following topics were raised in the audience discussion during the event:

• Online safety and security.
• Digital education and digital literacy, for all ages.
• IPv6 and other technology-related issues.
• The Internet as a ‘right’.
• Internet access for all geographic regions of Canada, including the North.
• New generic top-level domains.
• How to keep the day’s discussion moving forward, not just at the national event.

The entire CIF event proceedings can be viewed on CIRA’s YouTube channel at: http://www.youtube.com/playlist?list=PL3FF6F84EB2B4161F
KEY FINDINGS FOR A FUTURE CIF:

First and foremost, the survey results demonstrated that to date critical issues of Internet governance have not been well communicated to those ‘outside’ of the Internet governance milieu. This must be rectified, and the CIF is a step in that direction.

Importantly, CIRA found that there is an engaged and informed group of Canadians with an interest in Internet governance. Moving forward, CIRA will try to capitalize on the knowledge and motivation of this group. Participants recommended the continuation of the discussion by the group that assembled on February 27, 2012. It was viewed as a self-organizing social network that could carry the message and the discussion on to a broader group. The delegates at the national event also expressed interest in being surveyed onsite about the issues that were discussed as part of the CIF.

While this group is keenly interested in discussing a number of issues, security, innovation, digital literacy, the free and open Internet, and access are the top-of-mind topics for the majority of Canadians who participated. However, education will be the key to moving forward on a number of identified issues, including security and digital literacy.

It is very apparent that the topics identified and discussed are inter-related. While digital literacy and security were identified as separate topics, digital literacy skills are the key to addressing many security concerns. And, access to broadband was seen as critical to the economic success of all regions of Canada.

CONCLUSION:

The second annual CIF was a success, demonstrated by the increasing number of Canadians participating in the dialogue and attending the national event. Participation in the CIF grew to 428 in 2012, a 17 per cent increase in participation over previous year. Canadians are clearly increasingly engaged and interested in discussing topics related to Internet governance. It now behooves CIRA to broaden this dialogue to reach more Canadians, and to share the findings with the global Internet community.

Forum participants expressed their support for CIRA playing a role in bringing Canadians together for an ongoing discussion related to Internet governance, and as a leader in international Internet governance fora.

CIRA thanks all those who contributed their time, expertise and insight to the CIF, and to its government partner, Industry Canada for their ongoing support.

“We as digital citizens have and demand digital rights. However, I would argue as with any other democracy, with rights come responsibilities.”

— Byron Holland, CIRA
APPENDIX A:

CIF Event Agenda

8 a.m. - 9 a.m. - Continental breakfast and networking

9 a.m. - 9:10 a.m. - Opening Remarks

9:10 a.m. - 9:20 a.m. - Government Partner Remarks

9:20 a.m. - 10:30 a.m. - Session 1: Opportunities and challenges for the Canadian Internet

10:30 a.m. - 10:45 a.m. - BREAK

10:45 a.m. - 11 a.m. - Presentation: The global Internet

11 a.m. - 11:45 a.m. - Session 2: Perspectives on international Internet governance

11:45 a.m. - 12 p.m. - BREAK

12 p.m. - 1:30 p.m. - LUNCH Keynote speaker: Robert Herjavec

1:30 p.m. - 3 p.m. - Overview of 2012 CIF findings

3 p.m. - 3:15 p.m. - BREAK

3:15 p.m. - 4 p.m. - Audience discussion: Vision for an ongoing CIF

4 p.m. - 4:15 p.m. - Closing remarks

4:15 p.m. - 6 p.m. - Networking reception