

July 29, 2019

Honorable Wayne Easter  
Chair, Standing Committee on Finance  
House of Commons  
Sixth Floor, 131 Queen Street  
Ottawa, ON K1A 0A6

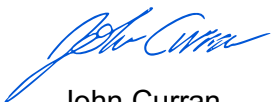
Re: 2020 Pre-budget Submission from the American Registry for Internet Numbers (ARIN)

Dear Chairman Easter:

The American Registry for Internet Numbers is pleased to present this submission for consideration as part of the Standing Committee on Finance's 2020 pre-budget submission process.

Thank you for your time.

Sincerely,



John Curran  
President and CEO

# The American Registry for Internet Numbers (ARIN)

Written Submission for the Pre-Budget  
Consultations in Advance of the 2020  
Budget

Standing Committee on Finance

House of Commons  
Ottawa ON K1A 0A6  
Canada

*Contact:* Mr. John Curran  
ARIN, Chief Executive Officer  
(703) 227-9850  
[jcurran@arin.net](mailto:jcurran@arin.net)

Stephen M. Ryan, Esq.  
ARIN, General Counsel  
(202) 756-8333  
[sryan@mwe.com](mailto:sryan@mwe.com)

## **Recommendation 1:**

The American Registry for Internet Numbers (ARIN) recommends that the Government of Canada continue to work in collaboration with industry stakeholders, including but not limited to Canadian Internet Service Providers (ISP), law enforcement agencies, intellectual property content owners, and civil society to ensure that ARIN's number resource directory continues to be free and publicly available, to meet the needs of Canadian society.

## **Recommendation 2:**

The Government of Canada should formally recognize the importance of ARIN's role by way of public declarations of support, and as a part of its regulations and laws.

## **Introduction**

The American Registry of Internet Numbers (ARIN) thanks the members of the House of Commons Standing Committee on Finance for the opportunity to contribute to its consideration of recommendations for Budget 2020.

As the complexity of security and economic challenges online has grown, the Government of Canada has made important investments to ensure that law enforcement agencies and civil society have the tools to address a changing world. Budget 2018 saw \$507.7 million over five years invested in Canada's National Cyber Security Strategy and the creation of the Canadian Centre for Cyber Security, along with \$116.0 million to support the creation of the National Cybercrime Coordination Unit within the Royal Canadian Mounted Police (RCMP). Budget 2019 saw further investments, including \$144.9 million over five years to strengthen the cyber security of critical infrastructure, \$80 million over four years to support Canadian cyber security networks, and \$30.2 million over five years to protect Canadian democracy from cyber attacks and misinformation.

For over 20 years, a foundational element giving Canadian law enforcement and civil society the ability to trace and investigate illegal activities online has been the public availability of ARIN's Whois database of internet number addresses. ARIN's strong and effective industry-supported self-governance framework has ensured that this important resource remained available without government cost, management or direction. It is important for policy makers to ensure that the ability to identify possible sources of cybercrime and illicit activities online is maintained.

## **About ARIN**

The American Registry for Internet Numbers (ARIN) is a non-governmental, nonprofit, member-based organization that supports the operation of the Internet through the management of Internet Protocol ('IP') number resources throughout its service region (comprised of Canada, the United States, and numerous Caribbean and North Atlantic islands). No government funding is provided to support ARIN's activities. ARIN's Internet Protocol number address registry is currently freely utilized by Canadian private sector entities, law enforcement, and foreign counter-intelligence as we describe below.

## **ARIN's Whois Directory**

Since 1997, Internet service providers of all sizes (ranging from large nationally known entities and corporate end users to small entrepreneurial ISPs) in Canada have participated successfully in a self-governance framework for Internet address coordination that works collegially with the private sector and government entities. ARIN maintains the definitive registry of the rights to utilize Internet Protocol numbers issued in the service region, including Canada. The authorized holders of the right to utilize the Internet Protocol (IP) Numbers is made publicly available in ARIN's "Whois" IP directory. The ARIN directory of IP address blocks is of significant value to any Canadian individual, business or government entity with the need to identify which ISP has been issued a specific IP number. For example, the ARIN Whois directory would be the first level resource needed by a Canadian content creator if their copyright protected work is being pirated online, as it often provides the only mapping between the cyberspace "Internet Protocol" (IP) address and the real world responsible party and their locale. The ARIN Whois directory enables that Canadian citizen to promptly confirm which Internet service provider is making use of a particular IP address - and this knowledge permits an aggrieved party to use legal process to obtain non-public data regarding the account holder utilizing the IP number.

It is important to note that the ARIN Whois registry serves predominantly organizations of all types in Canada, and use of personal private data is not required in the public registry; but in an abundance of caution, ARIN registry policies have been developed jointly with industry, government, and civil society that provide appropriate mechanisms to avoid identification of IP address assignments that might be associated with single households. Furthermore, Canadian national and provincial law enforcement and counter intelligence agencies (and their public/private partners in cyber security and anti-abuse) rely on open access to the ARIN Whois directory so they can update government files used in a range of agency activity, which can be as diverse as law enforcement investigations of cyber bullying, resolving cyber attacks, or investigating cybercrimes more generally.

## **Maintaining the ARIN Whois Directory**

The Internet has historically relied upon 32-bit Internet Protocol Version 4 (IPv4) Internet numbers to uniquely identify connected devices. These IPv4 addresses were issued in blocks to ISPs for connecting additional customers based upon a demonstration that the ISPs previously issued allocations were sufficiently utilized to justify issuance for the next block of numbers. The updated allocation data provided to ARIN (by ISPs to demonstrate they had issued sufficient numbers to justify obtaining an additional IPv4 block) had the positive corollary impact of regularly updating the publicly available data in the ARIN Whois directory. The requirement to keep the IP address directory updated has been an intended

“side effect” of the policy requiring documentation from ISPs in order to obtain additional IPv4 resources.

Now that the supply of readily available IPv4 numbers from the ARIN registry is depleted, unused IPv4 address blocks have become monetarily valuable, and ARIN established a policy to allow parties to transfer their rights to unneeded IPv4 address blocks. Transfers of these rights to exclusive use of particular blocks of IP numbers in the ARIN registry permit those who need still need additional IPv4 number resources to readily obtain them in this period while the industry transitions to the newer Internet Protocol Version 6 (IPv6)

### **Non-Monetary Encouragement and Continued Recognition By Canada’s Government**

The transition of the Internet from IPv4 to IPv6 will provide enormous capacity for accommodating future Internet growth (as it eliminates the IPv4 protocol limitation of approximately 4 billion devices total for the global Internet); but the transition does not diminish the need for accurate records.

The technical standards of the Internet established by the Internet Engineering Task Force (“IETF”) require that the initial IPv6 assignment to each ISP be quite sizable. In fact, for efficiency of the Internet routing system, it is required that each of these individual ISP IPv6 allocations be larger than the entire global IPv4 number pool. ARIN policy requires each ISP to record when it sub-allocates space from its IPv6 block, but such records will not be routinely reviewed by ARIN due to the lack of any need for the ISPs to regularly obtain additional IPv6 address blocks.

Recently, the Royal Canadian Mounted Police, the Federal Bureau of Investigation, and U.S. Drug Enforcement Administration have all come together in a cross-border effort to address this exact issue. They presented recommendations resulting from a collaboration of these law enforcement agencies (LEA) which address their need to maintain accurate registry records. They provided specific examples of the benefit to Canadian law enforcement of having such updated records, as well as cautionary information about the impact of non-updated records that do not permit the LEA to serve process on the ISP that is in privity with the person or business entity using a specific IP number. We are happy to share their presentation with members of the Committee.

The House of Commons Standing Committee on Industry, Science and Technology recently recognized the importance of ARIN’s Whois to protect the intellectual property of Canadian creators. In the Committee’s June 2019 report on the statutory review of Canada’s Copyright Act, they included a recommendation with respect to ARIN which reads as follows:

## **Recommendation 26**

That the Government of Canada examine ways to keep IPv6 address ownership information up-to-date in a publicly accessible format similar in form and function to American Registry for Internet Numbers' IPv4 "Whois" service.<sup>1</sup>

## **Conclusion**

ARIN believes that the current successful principle of Internet self-governance can continue to meet the needs of Canadian law enforcement as well as Canadian civil society content owners and other stakeholders. We would be pleased to meet with the Finance Committee to further discuss how the Government of Canada can ensure that the services provided in Canada such as the ARIN registry and IP number Whois directory remains free, effective and available to support efforts and investment in combatting cybercrime and illicit online activities.

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<sup>1</sup> Reference: <https://www.ourcommons.ca/DocumentViewer/en/42-1/INDU/report-16/page-36>