Canadian Radio-television and Telecommunications Commission
Conseil de la radiodiffusion et des télécommunications canadiennes

Telecom Regulatory Policy CRTC 2011-330

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Static IP address allocation for third-party Internet access services

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Introduction

1. In *Wholesale high-speed access services proceeding*, Telecom Regulatory Policy CRTC 2010-632, 30 August 2010 (Telecom Regulatory Policy 2010-632), the Commission directed Cogeco Cable Inc., Rogers Communications Inc., Shaw Communications Inc., and Videotron Ltd. (collectively, the cable carriers) to show cause why they should not be required to provide static Internet protocol (IP) address[1] allocation for their third-party Internet access (TPIA) services.

2. The cable carriers filed their joint response on 29 September 2010.[2]

3. The Commission received comments from the Canadian Network Operators Consortium (CNOC), the Canadian Association of Internet Providers (CAIP), TELUS Communications Company (TCC), and Vaxination Informatique (Vaxination). The public record of this proceeding, which closed on 17 January 2011, is available on the Commission's website at www.crtc.gc.ca under "Public Proceedings" or by using the file number provided above.

Should the cable carriers be required to provide static IP address allocation for their TPIA services?

4. In support of their position that they should not be required to provide static IP address allocation for their TPIA services, the cable carriers submitted that it is unclear whether the Managed Router solution they use to provide static IP addresses for business customers would work for their TPIA services. They added that this solution is subject to technical challenges and uncertainties, as it has never been used with third-party Internet service providers. The cable carriers further submitted that they would not likely be able to recover the costs they would incur to provide static IP addresses for their TPIA services because of limited demand and significant implementation costs.

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1 A static IP address is a number that is assigned to a device, such as a computer, to be its permanent address on the Internet. An Internet service provider assigns the address when it provides an Internet access service to an end-user.

2 Quebecor Media Inc. filed on behalf of its affiliate Videotron Ltd.

5. The cable carriers submitted that a practical solution based on Dynamic Domain Name System (DDNS) technology[3] is available to competitors. With this solution, an end-user would continue to be assigned dynamic IP addresses but would receive the benefits of static IP addressing for most situations, since website access would be linked to site names rather than to IP addresses.

6. CNOC and CAIP both submitted that the Commission should require the cable carriers to provide static IP address allocation for their TPIA services. In their view, the technical challenges of such allocation could be overcome, as evidenced by the availability of static IP address allocation for the cable carriers' retail services. CNOC also submitted that there would be sufficient demand to recover development costs.

7. CNOC and CAIP further submitted that the DDNS alternative solution proposed by the cable carriers is not acceptable because of certain shortcomings related to security and insufficient reliability for business use.

8. TCC submitted that the cable carriers should be able to provide a solution to support static IP address allocation that is less complex than their Managed Router solution. In response to interrogatories, TCC submitted that it uses the dynamic host configuration protocol (DHCP) to assign either static or dynamic IP addresses to end-users of its retail Internet service, as required, and that its approach represents a less complex solution for the cable carriers than their proposed Managed Router solution.

9. Vaxination also proposed the use of DHCP for the provision of static IP addresses by the cable carriers.

Commission's analysis and determinations

10. In paragraph 109 of Telecom Regulatory Policy 2010-632, the Commission stated the following:

> In the Commission's view, the cable carriers' inability to provide static IP address allocation for TPIA service means that the incumbents' obligations for the aggregated ADSL access and TPIA services are not equitable. The Commission notes, however, that there is insufficient information on the record of this proceeding to make a determination on the matter.

11. The Commission notes that the cable carriers currently use DHCP to assign only dynamic IP addresses to their retail Internet service end-users and TPIA end-users. The Commission further notes that, as evidenced by TCC's implementation, DHCP can be used to assign both static and dynamic IP addresses. Accordingly, the Commission considers that the use of DHCP to support static IP address allocation for TPIA service is an approach that merits consideration.

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[3] A DDNS application updates the IP address associated with a customer's domain name (e.g. website name) in the Domain Name System (a directory) when the customer's IP address changes. Domain names and IP addresses are maintained in the Domain Name System, allowing end-users of the Internet to access websites through site names rather than IP addresses.

12. The Commission considers that parties have provided several proposals that could be implemented to support static IP address allocation for TPIA services and thus address the inequity between obligations for the aggregated ADSL and TPIA services as noted above. Accordingly, the Commission concludes that the cable carriers should be required to provide static IP address allocation capability for their TPIA services.

13. The Commission notes that CNOC and CAIP did not endorse any of the approaches suggested by the other parties, but instead requested that a solution be found through a CRTC Interconnection Steering Committee (CISC) process. The Commission further notes that the cable carriers submitted that if they were required to support static IP addresses for TPIA, a CISC working group should be established to identify the most appropriate solution.

14. In light of the above, the Commission requests CISC to develop a solution for static IP address allocation for TPIA services and to file a report with the Commission for approval within 120 days of the date of this decision.

Secretary General