



## Telecom Decision CRTC 2019-362

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### **CISC Network Working Group – Consensus report NTRE062 regarding the implementation of disaggregated wholesale high-speed access services**

*The Commission **approves, with changes**, the CISC Network Working Group’s consensus report regarding the implementation of disaggregated wholesale high-speed access services, including the recommendations set out therein.*

#### **Background**

1. In Telecom Regulatory Policy 2015-326, the Commission determined that it would be appropriate for disaggregated wholesale high-speed access (HSA) services (disaggregated HSA services) to be implemented, starting in Ontario and Quebec.
2. In Telecom Decision 2016-379, the Commission approved the configuration for disaggregated HSA services and directed Cogeco Cable Inc. (now Cogeco Communications inc.), Rogers Communications Partnership (now Rogers Communications Canada Inc. [RCCI]), and Videotron G.P. (now Videotron Ltd.) [collectively, the cable carriers], as well as Bell Canada (collectively, the disaggregated HSA service providers), to provide an outside meet-me point to support competitor interconnection to the services.
3. In addition, the Commission determined that a CRTC Interconnection Steering Committee (CISC) working group could potentially reduce delays in the implementation of disaggregated HSA services by enabling parties to identify and resolve technical and operational issues associated with service implementation. The activities of the working group, if properly defined, would be unlikely to impact the service configuration and associated costs; accordingly, the approval process for disaggregated HSA service tariff applications could be initiated independently of the activities of the working group. In the event that an outcome of the working group would affect the tariff application approval process, the impact could be factored into the Commission’s assessments of the proposed cost studies submitted with the tariff applications.
4. CISC assigned the activities to the Network Working Group (NTWG) on 14 December 2016, and approved Task Identification Form (TIF) 35, which outlined the scope of the activities, on 23 January 2017.

## The Report

5. On 27 September 2018, the NTWG submitted for Commission approval the following consensus report (the Report):
  - *Implementation of a Disaggregated Wholesale High-speed Access Service, Including over Fibre-to-the-premises Access Facilities*, 13 September 2018 (NTRE062)
6. The Report can be found under the “Reports” section of the NTWG page, which is available under the CISC section of the Commission’s website at [www.crtc.gc.ca](http://www.crtc.gc.ca).
7. The NTWG identified four issues for which further definition would assist disaggregated HSA service customers with interconnection to disaggregated points of interconnection (POIs):
  - third-party Internet access (TPIA) implementation and the impact of Internet Protocol (IP) version 6 (IPv6) deployment;<sup>1</sup>
  - POI identification methodology;
  - outside meet-me point configuration; and
  - transport/backhaul arrangements.

### TPIA implementation and the impact of IPv6 deployment

8. Requirements for IP address management between disaggregated HSA service providers and their disaggregated HSA service customers currently exist only for the cable carriers’ disaggregated HSA services, since Bell Canada’s disaggregated HSA service customers are allowed to assign their own IP address blocks, and to do so in a format of their choice (i.e. IPv4 or IPv6) without specific co-ordination with or notification to Bell Canada.
9. Discussions on this issue focused on two items related to the required interaction between the cable carriers and their disaggregated HSA service customers with respect to IP address assignment.
10. The first item focused on whether the IPv4-specific implementation guidelines set out in a CISC consensus report entitled *ISP Connection and Disconnection Procedures* (HSRE002), dated 11 April 2001, need to be changed or updated to accommodate the new disaggregated HSA service configuration.

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<sup>1</sup> An IPv6 address is a numerical label that is used to identify a network interface of a computer or a network node participating in an IPv6 computer network. An IP address serves the purpose of identifying an individual network interface of a host and locating it on the network, thus permitting the routing of IP packets between hosts. IPv6 is the successor to the first addressing infrastructure of the Internet, IP version 4 (IPv4). In contrast to IPv4, which defined an IP address as a 32-bit value, IPv6 addresses have a size of 128 bits. Therefore, IPv6 has a much larger address space compared to IPv4.

11. The NTWG reached consensus that issues regarding the IPv4-specific implementation guidelines (i) are related to the aggregated, rather than the disaggregated, HSA service configuration; and (ii) are not related to interconnection and associated technical and operational issues linked to disaggregated HSA services.
12. The second item focused on whether advance notification guidelines are required for when a cable carrier converts an IPv4-only POI to an IPv4/IPv6 POI.
13. The NTWG reached consensus that the issue of advance notification guidelines for such conversions is similar to the issues being examined by the 1540 Wholesale HSA working group with respect to other notification requirements for activities undertaken by the cable carriers.
14. The NTWG therefore reached consensus in concluding that issues under its consideration related to TPIA and IPv6 development are not within the scope of TIF 35, and that parties are welcome to raise these issues in the appropriate CISC working group.

#### **POI identification methodology**

15. Potential disaggregated HSA service customers identified access to information regarding POIs and associated serving areas as being important, since such information would (i) help them choose locations in which to implement the services and (ii) assist with the efficient migration of end-users from associated aggregated HSA services. The NTWG discussed three items related to POI location identification.
16. The first item focused on an appropriate identifier that could be used to discern a disaggregated HSA service provider's POIs. It was suggested that the Common Language Location Identifier Code (CLLI) could be used to identify POI locations, given that it is a well-understood, industry-standard identifier.
17. The NTWG reached consensus that the CLLI should be used as a neutral registry for POI locations, since the disaggregated HSA service providers noted that they have standardized the use of CLLI within their specific product offerings.
18. The second item focused on whether serving area maps, information identifying which end-users are served from a POI, and information to identify all end-user locations served from a POI would be made available to disaggregated HSA service customers.
19. The NTWG reached consensus that disaggregated HSA service customers will require information on POI locations, and the addresses and/or regions served by the POI locations on the underlying disaggregated HSA service provider's network, to develop business plans for their disaggregated HSA services.

20. The third item focused on whether the provision of qualification tools is necessary to enable disaggregated HSA service customers to identify the POI from which a particular end-user is served.
21. The NTWG determined that there are already solutions in place that will continue to be available. As a result, the NTWG reached consensus that no further investigation on this issue is required.

### **Outside meet-me point configuration**

22. Access to a disaggregated HSA service provider's outside meet-me point was identified as an important item for disaggregated HSA service customers in planning and implementing their interconnection(s). Two items related to outside meet-me point locations were discussed.
23. The first item focused on the specific outside meet-me point configurations for the cable carriers' disaggregated HSA services, since Bell Canada's tariff applications already included diagrams identifying interconnection arrangements for the disaggregated HSA service configuration.
24. RCCI provided guidelines on the construction, configuration, and management of the outside meet-me points for the cable carriers' disaggregated HSA services. The other cable carriers submitted that they had yet to finalize their specific service offerings, but supported RCCI's contribution.
25. The second item focused on the process and rationale behind the placement of outside meet-me points at each disaggregated POI.
26. Distributel Communications Limited and Fibernetics Corporation recommended the development of guidelines for disaggregated HSA service providers to use when they define the location of an outside meet-me point.
27. The disaggregated HSA service providers submitted that an outside meet-me point location would be defined following a decision-making process by a disaggregated HSA service provider, which would include reviewing the type of interconnection structure used (e.g. manhole, aerial, or pedestal), all disaggregated HSA service customer forecasts, the disaggregated HSA service provider's future needs, and suitable capacity for growth. Once chosen, these locations would become the default locations for all disaggregated HSA service customers.
28. The NTWG reached consensus that outside meet-me points should be provided in locations that are accessible and efficient for the purpose of interconnection, and that configurations should adhere to the guidelines as proposed by RCCI (for the cable carriers) and to the principles of Bell Canada's service (for incumbent local exchange carriers [ILECs]).

## **Transport/backhaul arrangements**

29. The arrangement for and access to transport/backhaul provided by competitive third-party providers were identified as important elements to enable disaggregated HSA service customers to use the associated services in a cost-effective manner. It was also noted that in Telecom Decision 2016-379, the Commission indicated that third-party transport/backhaul facilities should be made available. Two items related to transport/backhaul arrangements were discussed.
30. The first item focused on the specific arrangements that would be made available to disaggregated HSA service customers wishing to interconnect at the outside meet-me points, and how those arrangements related to the services' customer of record.
31. Bell Canada noted that the backhaul arrangements in its tariff allow for three different fibre-based interconnection options. Disaggregated HSA service customers could bring/build their own fibre transport to the outside meet-me point, make arrangements for the use of transport from a third-party fibre provider, or use the fibre transport of a disaggregated HSA service customer already connected to the outside meet-me point. In each case, discrete fibres dedicated to each customer would be spliced at the outside meet-me point to provide connectivity to any associated disaggregated HSA services. The cable carriers submitted that these options would also be available to their disaggregated HSA service customers.
32. The NTWG reached consensus that when a disaggregated HSA service customer uses a third-party backhaul provider to interconnect at an outside meet-me point, the customer will be the customer of record for associated disaggregated HSA services.
33. The second item focused on whether disaggregated HSA service providers should be required to support logical fibre sharing (i.e. multiple customers on a single fibre strand) in addition to physical fibre sharing (i.e. multiple customers on discrete fibre pairs within the same sheath).
34. Participants in the NTWG disagreed about the appropriateness of a requirement for disaggregated HSA service providers to support logical fibre sharing in addition to physical fibre sharing. The disaggregated HSA service providers submitted that they had defined and developed their services to allow for physical fibre sharing only.
35. There was also disagreement as to whether this issue was within the scope of TIF 35, since there were contradictory views as to whether the Commission had directed the disaggregated HSA service providers to allow for logical fibre sharing. During the CISC discussions, Commission staff provided clarification on this item and noted that Commission decisions related to disaggregated HSA services did not include any determinations regarding the development of logical fibre sharing, and that there is therefore no requirement to provide that type of arrangement as part of the services.
36. Accordingly, the NTWG reached consensus that physical fibre sharing is available to disaggregated HSA service customers who do not wish to bring/build their own fibre to the disaggregated HSA service providers' outside meet-me points.

37. The NTWG also reached consensus that the issue of logical fibre sharing is outside the scope of TIF 35.

### **Consensus recommendations**

38. The NTWG requested that the Commission approve the following consensus recommendations:

- CLLI should be used as a neutral registry for POI locations;
- when defining the location of outside meet-me points, disaggregated HSA service providers should ensure that these points are accessible and efficient for the purpose of interconnection;
- configurations of the disaggregated HSA service providers' outside meet-me points should adhere to the guidelines as proposed by RCCI (for the cable carriers) and to the principles of Bell Canada's service (for ILECs);
- the disaggregated HSA service provider's customer of record is the Internet service provider / disaggregated HSA service customer ordering the service(s);
- physical fibre sharing is available to disaggregated HSA service customers who do not wish to bring/build their own fibre to the disaggregated HSA service providers' outside meet-me points.

### **Commission's analysis and determinations**

39. The Commission considers that the NTWG completed its assigned tasks as directed by the Commission in Telecom Decision 2016-379, and reached consensus on the recommendations.

40. Implementation of the proposed recommendations will not have an effect on the approval process for the disaggregated HSA service tariff applications, since the recommendations do not impact the service costs.

41. The Commission considers the NTWG's recommendations to be appropriate, reasonable, and consistent with the broader strategic objectives set out in Telecom Regulatory Policy 2015-326, namely the implementation of disaggregated HSA services.

42. However, there was a small error in item 6 of the cable carriers' interconnection guidelines set out on page 6 of the consensus report – the second instance of "TPIA Service Provider" should be replaced with "TPIA Customer."

43. In light of the above, the Commission **approves** the Report and the consensus recommendations, with the modification noted above.

Secretary General

## Related documents

- *Follow-up to Telecom Regulatory Policy 2015-326 – Implementation of a disaggregated wholesale high-speed access service, including over fibre-to-the-premises access facilities*, Telecom Decision CRTC 2016-379, 20 September 2016
- *Review of wholesale wireline services and associated policies*, Telecom Regulatory Policy CRTC 2015-326, 22 July 2015; as amended by Telecom Regulatory Policy CRTC 2015-326-1, 9 October 2015