February 13, 2012

Filed via Access Key

Mr. John Traversy
Secretary General
Canadian Radio-television and
Telecommunications Commission
1 Promenade due Portage, Centre Building
Gatineau, Quebec K1A 0N2

Dear Mr. Traversy:

Re: CNOC Part 1 Application requesting expedited relief to address Implementation of the capacity model approved in Telecom Regulatory Policy CRTC 2011-703 – Answer

1. Cogeco Cable Inc., Quebecor Media Inc., on behalf of its affiliate Videotron G.P., and Rogers Communications Partnership (collectively, the "Cable Carriers") hereby file their answer, pursuant to the Commission's letters of January 6, 2012 and February 3, 2012, in response to the Part I application filed by the Canadian Network Operators Consortium Inc. (CNOC) (the Application) that requested relief with respect to the implementation of Telecom Regulatory Policy 2011-703 (TRP 2011-703).

Yours very truly,

Yves Mayrand
Vice President
Corporate Affairs
Cogeco Cable Inc.
Tel.: 514.764.4700
Fax: 514.874.2625
telecom.regulatory@cogeco.com

Dennis Béland
Senior Director, Regulatory Affairs,
Telecommunications
Quebecor Media Inc.
Tel.: 514.380.4792
Fax: 514.380.4664
regaffairs@quebecor.com

Ken Engelhart
Senior Vice President
Regulatory
Rogers Communications
Tel.: 416.935.2525
Fax: 416.935.2523
ken.engelhart@rci.rogers.com

cc: Interested parties to TNC CRTC 2011-77-1

Executive Summary

i. CNOC's Application seeks to overturn key aspects of the capacity model approved in TRP 2011-703. The requests to have access to capacity based on dynamic allocation and near instantaneous changes in capacity would fundamentally change the obligations of wholesale ISP customers. It would relieve wholesale ISP customers of the risk and responsibility to plan and manage their use of the shared network, and shift that responsibility to the Cable Carriers. It would have much of the same effect as if the Commission had approved CNOC's proposed 95th percentile capacity model.

ii. There is nothing new in the reasons advanced by CNOC for seeking these changes. CNOC raised concerns about "overbuying" capacity for redundancy and load balancing in reaction to the capacity model proposed by MTS Allstream.

iii. TRP 2011-703 explicitly rejected CNOC's concerns with the MTS Allstream model, and rejected CNOC's 95th percentile model. Among the deciding factors cited by the Commission was that the chosen model would ensure the wholesale ISP customers assume the risk and responsibility of planning and managing the capacity they require. CNOC's 95th percentile model was rejected because, among other things, it would shift this responsibility onto the network providers.

iv. The Cable Carriers have demonstrated that the relief requested in CNOC's Application would shift the risk and responsibility away from the wholesale ISP customers to the Cable Carriers, contrary to the Commission's decision in TRP 2011-703.

v. Implementing dynamic allocation would allow wholesale ISP customers to vary the amount of capacity they could use because it would break down the relationship between the capacity and the ports at the interface with the Cable Carriers. It is through this relationship that the Cable Carriers ensure wholesale ISP customers are provisioned with all of, but no more than, the capacity that was ordered. If the relationship is not maintained, the Cable Carriers would bear the risk that the wholesale ISP customers would exceed the capacity that was ordered.

vi. Implementing the functionality associated with CNOC's request would require measuring tools to track actual usage because the wholesale ISP customers would no longer be limited to using only the amount of capacity ordered. The Commission explicitly rejected billing for capacity based on measurement of actual usage when it rejected CNOC's proposed 95th percentile capacity model.

vii. Implementing redundancy and load balancing functionality on the Cable Carriers' TPIA services is constrained by significant operational and technical limitations. It would require activating additional ports at the interface through which the wholesale ISP customer would gain access to additional capacity. CNOC's Application proposed that the wholesale ISP customer should not have to pay for the additional capacity, claiming that it would not be "used". This ignores the fact that the ports and associated capacity would have to be reserved and available for use on demand by the wholesale ISP customer. Again, it would be the Cable Carriers that would bear the risk that the wholesale ISP customer would use these resources without paying for them.

viii. The extremely short ordering intervals also would relieve the wholesale ISP customer of the responsibility to predict and manage its capacity. Instead, it would be the responsibility of the Cable Carriers to turn up additional capacity on two days notice or less. As with dynamic allocation, mandating very short ordering intervals would shift the burden of the risk and responsibility for managing the network capacity that was established in TRP 2011-703.

ix. CNOC's Application also argued that the Cable Carriers should be required to provide speed matching for all service speeds at both disaggregated and aggregated POIs. The Commission already addressed a similar request from CNOC in Telecom Decision 2011-482 and no further clarification is required. Reversing this ruling would require the Cable Carriers to make additional and unnecessary investment in disaggregated POIs. It would also undermine the transition to aggregated POIs that were mandated to bring about regulatory symmetry between the Cable Carriers and the telephone companies.

x. For all of these reasons, and as further explained in this answer, the Cable Carriers submit that the relief requested in CNOC's Application should be denied.

I. Introduction

1. CNOC's Application requested changes to, and clarification of, the implementation of TRP 2011-703 by the incumbent carriers in a number of respects. The Cable Carriers' answer addresses the three requests that relate to the implementation of the Third Party Internet Access (TPIA) tariffs that were filed pursuant to the Commission's directions in TRP 2011-703. The three requests are summarized as follows:

    a. Amend the TPIA tariffs to allow wholesale ISP customers to allocate purchased capacity dynamically to one or more interfaces;

    b. Amend the TPIA tariffs to require the Cable Carriers to process wholesale ISP customers' orders for changes in capacity "very quickly (i.e., in real time or no later than two business days after such a request is made)"[1]; and

    c. Confirm that the Cable Carriers are required to provide speed-matching in the TPIA tariffs for both disaggregated and aggregated points of interconnection (POIs).

2. CNOC's Application also had a fourth request to make terms and conditions in the TPIA tariffs interim. This request was dealt with in a separate process, pursuant to the Commission's letter of January 6, 2012. Accordingly, the Cable Carriers are not addressing this matter in this answer.

3. The Cable Carriers submit that the relief requested in the Application should be denied. It would be contrary to the Commission's findings in TRP 2011-703 and previous determinations regarding TPIA services. The Cable Carriers disagree with CNOC's claim that the Application is not a request to review and vary TRP 2011-703. The Application raises issues that had been fully canvassed as part of the proceeding leading to TRP 2011-703 and relies on arguments that were made during that proceeding, as well as the proceeding leading to Telecom Decision 2011-482 (TD 2011-482). CNOC's Application failed to provide evidence as to why the Commission should revisit these same issues and reconsider the same arguments.

4. The Cable Carriers address each of the three requests in more detail in the following sections.

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[1] CNOC Application, paragraph 85.

II. Dynamic Allocation of Capacity

5. CNOC's Application summarized the requested relief for dynamic capacity allocation as follows:

> Directing the Bell Companies, MTSA, Cogeco, Rogers and Videotron to allow their wholesale ISP customers to allocate purchased capacity dynamically to one or more interfaces for the purpose of enabling independent ISPs to manage their networks by providing for ISP network redundancy and load balancing without having to pay for excess capacity that will never be used;[2]

6. CNOC's argument in support of its request relied on similar points for each of the network providers.[3] For the Bell Companies and MTS Allstream (MTSA), CNOC took issue with the fact that the tariffs would "tie the use of purchased capacity to specific AHSSPIs".[4] The TPIA services of the Cable Carriers do not involve AHSSPIs due to differences in network technology and architecture between cable and telephone companies. The closest equivalent in the TPIA service would be the ports at the interface located at the POIs. The Cable Carriers assume that this is what is being referenced in the CNOC Application.

7. The Cable Carriers find the nature of the relief sought in the Application unclear and somewhat confusing. It raises questions about the technical nature of the flow of traffic over the ports at the interface between the wholesale ISP customer and the Cable Carriers. In addition, the specific nature of the relief is not well-specified in the context of the Cable Carriers' TPIA services and underlying networks, leaving it open to different interpretations as to what changes are requested. Overarching these concerns is the broader issue of the appropriateness of CNOC's request given the record of the proceeding and the Commission's findings in TRP 2011-703. The Cable Carriers address each of these matters in the following sections.

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[2] CNOC Application, paragraph 98, (h).

[3] The relief and supporting rationale regarding this issue is found at paragraphs 76 to 81 of the CNOC Application for the Cable Carriers, which read very similar to paragraphs 42 to 47 for the Bell Companies and paragraphs 59 to 64 for MTS Allstream.

[4] CNOC Application, paragraphs 51 and 75.

8. The Cable Carriers suspect that the true purpose of CNOC's Application is to revise the capacity model approved in TRP 2011-703 so that the wholesale ISP customer only has to order, and pay for, the capacity it will actually use and no more. However, the Commission's capacity model requires the wholesale ISP customer to assume the risk that its actual usage may vary from predicted levels and the responsibility to manage the impact its customers will have on the network.

(A) Dynamic Allocation of Capacity – Revisiting Old Issues

9. CNOC's request for dynamic allocation rests on the presumption that TRP 2011-703 requires the Cable Carriers to treat all the capacity ordered by a wholesale ISP customer as if it were transported through a single port at the interface.

10. The Cable Carriers disagree with the argument in CNOC's Application that the Commission's decision "endorses the use of a capacity-based model, which measures capacity at a single point in a network".[5] TRP 2011-703 used that description of measurement in reference to the 95th percentile capacity model proposed by CNOC. It did not use it in the context of the MTS Allstream model that is the basis for the approved capacity model.

> In contrast, the capacity-based models are designed on the assumption that investments are correlated to the monthly capacity that an independent service provider **either uses at a single point in the network or reserves in advance**.[6] (emphasis added)
>
> The Commission considers that capacity-based models do not have the same billing reconciliation problems, as they are **either predetermined amounts or are based on traffic measurements taken at a single, common interface point**.[7] (emphasis added)

11. The Commission's findings distinguish between the two capacity-based models – the 95th percentile and MTS Allstream – in terms of whether charges for capacity are based on measurements at a single point or predetermined amounts,

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[5] CNOC Application, paragraph 80; emphasis in original.

[6] TRP 2011-703, paragraph 46.

[7] TRP 2011-703, paragraph 49.

respectively. In rejecting the 95th percentile model, the Commission also rejected measurement of capacity at a single point in favour of the MTS Allstream model.

12. CNOC's Application cited paragraph 58 of TRP 2011-703 in support of its claim that the Commission did not require capacity to be allocated to a specific interface facility. The fact that the Commission identified, as part of the approved capacity model, distinct tariff components for the capacity and interface does not support CNOC's claim that these components must also be independent. This would disregard the relationship between the amount of capacity required for the transport of the wholesale ISP customer's traffic on the carrier's network and the size of the port at the interface used to interchange traffic between the carrier and the wholesale ISP customer. The record of the proceeding leading to TRP 2011-703 demonstrates this relationship, as indicated by a review of the MTS Allstream model, the proposed tariff to support that model, and the Commission's questioning of that model.

13. In its Application, CNOC takes issue with a specific clause in MTS Allstream's tariff. However, the clause that CNOC argued must be amended to enable dynamic allocation was filed by MTS Allstream on December 10, 2010.[8] The Commission (but not CNOC) addressed a number of interrogatories to MTS Allstream, the responses to which indicate the firm relationship between the size of the interface (V-AHSSPI) and the capacity requirements of the wholesale ISP customer.[9] MTS Allstream's Final Argument reiterated that it could not "disassociate the size of the choke-point (port) from the amount of bandwidth reserved for a competitor in the shared transport network."[10]

14. CNOC's submissions in the proceeding leading to TRP 2011-703 recognized that the MTS Allstream model would have implications for how wholesale ISP customers would be required to purchase capacity.

> In particular, the MTSA approach requires independent ISPs to overbuy capacity, thereby also overcompensating incumbents. It also makes it much more expensive to purchase redundant links, because all of the capacity associated with the links has to be purchased at the same time. This kind of approach is also not efficient for small ISPs since they may

[8] MTS Allstream TN 699, December 10, 2010, at Item 5380, 3, A (6). This clause is cited in CNOC's Application at footnote 7.

[9] MTS Allstream(CRTC)5Apr11-4, MTS Allstream(CRTC)29Apr11-1, and MTS Allstream(CRTC)13Jun11-2.

[10] MTS Allstream Final Argument, TNC 2011-77, July 29, 2011, paragraph 28.

> only need a fraction of the capacity that they would be forced to purchase with a link. Larger ISPs who want a small number of large links, rather than having to manage many small links would also be forced to buy bigger increments of capacity than they need under this approach.[11]

15. The concern that wholesale ISP customers would be forced to "overbuy" capacity raised at that time is reiterated in CNOC's Application in its claim that the capacity model forces wholesale ISP customers to "pay for excess capacity that will never be used."[12] There is also nothing new about CNOC's argument that the capacity model has an impact on how wholesale ISP customers manage load balancing and redundancy.[13]

16. The Commission explicitly rejected the concerns raised by CNOC respecting the MTS Allstream capacity model, concluding that it would be appropriate for the wholesale ISP customer to assume the risk and responsibility for planning and managing its capacity requirements.

> With respect to CNOC's concern that independent service providers would be required to estimate and predetermine capacity under the MTS Allstream capacity model, the Commission considers that such a requirement appropriately shifts to the independent service providers the risk and responsibility associated with planning and managing the impact their customers will have on the network providers' networks. This contrasts with the 95th percentile capacity model, where the network provider would assume all responsibility to predict and manage the independent service provider's usage of its shared network.[14]

17. The MTS Allstream model proposed purchasing capacity in increments of 100, 400, or 1,000 Mbps on a monthly basis, which the Commission modified to provide for capacity increments of 100 Mbps and with separate charges for the

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[11] CNOC Final Argument, TNC 2011-77, July 29, 2011, paragraph 49.

[12] CNOC Application, paragraph 47, 57, and 81.

[13] CNOC Application states at paragraphs 44, 61 and 78: "Independent ISPs should not be forced to pay for twice the capacity they need in order to obtain redundancy and load balancing functionalities." CNOC Final Argument, TNC 2011-77, July 29, 2011, paragraph 52 states: "Although the MTSA method does encourage responsible network capacity usage, it does not encourage the efficient use of networks when it comes to such matters as redundancy planning and load balancing traffic."

[14] TRP 2011-703, paragraph 54.

interface and capacity.[15] The modifications allow the wholesale ISP customer to order capacity in increments other than those proposed by MTS Allstream. However, this does not change the fact the amount of capacity available to transport traffic cannot be disassociated from the capacity of the ports at the interface.

18. The Cable Carriers TPIA tariffs for aggregated POIs require the wholesale ISP customer to order capacity in increments of 100 Mbps, as directed in TRP 2011-703. The Cable Carriers provision the ordered capacity, including the capacity at the interface in the form of one or more ports. The capacity of the ports corresponds to the capacity ordered by the wholesale ISP customer. At this time, only Cogeco has filed a separate monthly tariff charge for the interface component.[16]

19. The Commission's modifications to the MTS Allstream model are not intended to create a new requirement for network providers to assume responsibility for dynamic allocation of capacity across multiple ports at the interface. This would constitute a new functionality that was never contemplated as part of such a capacity model. This change in the approved capacity model would undermine the Commission's goal in TRP 2011-703 to provide an appropriate sharing of the risks and responsibilities between the network provider and the wholesale ISP customer.

20. The Cable Carriers submit that it would be wholly inappropriate to grant CNOC's Application for dynamic allocation for these reasons alone. The requested relief raises additional questions and concerns in the context of the technical underpinnings of the request, and the possible different interpretations of how dynamic allocation would be implemented.

[15] TRP 2011-703, paragraphs 56 and 57.

[16] Cogeco Tariff Notice 36, item 103, Section 1.2.4, Line Cards, monthly rates for 1 Gb and 10 Gb.

(B) Technical Issues

21. CNOC's request for dynamic allocation of capacity at the interface needs to be understood in the context of the technical configuration of the facilities used to transport traffic between the Cable Carrier's network and the wholesale ISP customer via the ports at the interface between these two parties. The following describes the arrangements at an aggregated point of interconnection (POI).[17]

22. The wholesale ISP customer is responsible for providing the necessary facilities for the transport of traffic to its side of the interface at the POI. The wholesale ISP customer determines the specific configuration of its interconnection at the POI, including the facilities used to deliver traffic to and from that POI to the internet. The Cable Carrier provisions the full capacity ordered by the wholesale ISP customer and allocates this capacity to one or more ports at the interface.

23. The capacity of the ports corresponds to the capacity ordered. If more than one port is required, the amount of capacity ordered will be allocated in equal shares among the ports. This is standard practice in network provisioning based on the expectation that the load on each port will be balanced. Once this relationship between ports and ordered capacity is established, it cannot be altered without manual intervention. For example, the wholesale ISP customer's use of the capacity provisioned cannot burst above the established amount. To do so would open the door to using more than the amount of capacity ordered. However, the wholesale ISP customer can request a change in the amount of capacity ordered, which may require changes in the ports at the interface.

24. The wholesale ISP customer has the ability to control the delivery of the downstream traffic to the interface at the POI, where traffic is interchanged with the Cable Carrier via the ports at the interface. How the traffic flow is managed up to the point of hand-off allows the wholesale ISP customer to balance the load at the interface to correspond to the allocation of capacity across the ports provisioned for that wholesale ISP customer.

25. The delivery of the upstream traffic originating from the end-user is under the control of the Cable Carrier, by necessity of the fact that this traffic is originating on the Cable Carrier's side of the interface. This limits the ability of the wholesale ISP customer to control the load imposed by upstream traffic on its contracted capacity and the associated ports at the interface. However, this should not give rise to the concerns expressed in CNOC's Application.

[17] Disaggregated POIs are subject to different tariff provisions that do not include capacity based charges.

26. It is well established that upstream traffic capacity requirements are significantly less than the requirements for download traffic. Therefore, it is highly unlikely that a wholesale ISP customer that is managing the capacity to handle its downstream traffic requirements would encounter congestion on the upstream.

27. As this technical background demonstrates, the wholesale ISP customer has sufficient ability to manage its contracted capacity under the tariffs as filed. There is no technical reason why wholesale ISP customers should also be afforded dynamic allocation of capacity as contemplated in CNOC's Application.

(C) Dynamic Allocation for Redundancy

28. The Cable Carriers submit that CNOC's request for dynamic allocation is not well-specified in the context of the Cable Carriers' TPIA services and underlying networks, leaving it open to different interpretations as to what changes are requested.

29. CNOC's Application requests that the wholesale ISP customer should "have redundancy for that capacity on another interface".[18] CNOC also made statements in the proceeding leading to TRP 2011-703 that suggest the term "redundancy" means to provide a separate facility that can take over in the event of a failure in the primary facility.[19]

30. An illustrative example in the Application, in reference to tariffs filed by the Bell Companies, described a wholesale ISP customer that wants to have redundancy for 300 Mbps of capacity would have to purchase 600 Mbps of capacity blocks, "even though it will never use more than 300 Mbps".[20] According to the example, the wholesale ISP customer only requires 300 Mbps of capacity but wants the flexibility to route the traffic associated with that capacity over a different interface dynamically.

31. It is implied by CNOC's example that the redundant interface would only be used if the primary interface failed causing some, or all, of the 300 Mbps of capacity purchased to be unavailable. Restoring the full capacity would require routing

[18] CNOC Application, paragraph 42. The term "redundancy" is also used elsewhere in the Application, notably at paragraphs 76 through 81 with respect to Cable Carriers.

[19] TNC 2011-77, Transcript Volume 5, July 18, 2011, at line 5477 where Mr. Tacit, appearing on behalf of CNOC, stated: "If an ISP gets a second link for purely redundancy reasons, the overall capacity impact on the network will be the same as long as all the traffic is going through link A until it's severed and then it has to be shifted to link B. It doesn't change. The total capacity is the same."

[20] CNOC Application, paragraph 42.

traffic to other ports. At issue are the terms under which the redundancy would be provisioned and available for use by the wholesale ISP customer.

32. CNOC's Application request for dynamic allocation dictates that the wholesale ISP customer would have access to the redundant ports automatically whenever the wholesale ISP customer determined they were needed. This requires that the redundant ports be held in reserve for use by the wholesale ISP customer whenever a failure occurs with the primary ports. Having access to the redundant ports automatically also requires that these ports be activated and ready for use at any time. This opens up the possibility that the wholesale ISP customer would use the facilities other than during a failure.

33. Dynamic allocation also requires that capacity be held in reserve to handle the traffic routed to the redundant ports from the wholesale ISP customer. It is not technically possible for the capacity provisioned for the wholesale ISP customer to be dynamically redirected to the redundant ports. As discussed in Section II (B), the Cable Carrier assigns the capacity ordered to one or more ports and once the logical paths of capacity to ports is established, these cannot be altered without manual intervention.

34. The Cable Carriers could implement a redirection on a manual basis but not automatically. The manual approach would require that the redundant ports be kept entirely inactive unless or until there was a failure in the primary ports. At that point, manual intervention would be used to reassign the capacity ordered to the redundant ports. This would eliminate the need to reserve additional capacity but it would still impose costs and require additional resources. While it is not unusual for redundancy protection to be provided with network services, it has not been mandated in all cases for wholesale services, and in no case has it been mandated at no additional cost.[21]

35. The Cable Carriers submit that it would be unreasonable to mandate the provision of reserve facilities on a manual basis for redundancy purposes without considering the additional costs. The provision of this functionality should be subject to negotiation. Regardless of whether it is mandated, the Cable Carriers should be provided a reasonable opportunity to recoup the costs associated with providing redundancy from those wholesale ISP customers that request it.

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[21] See for example, the Commission's determinations regarding redundant POI entrance facilities for TPIA services, in Telecom Decision 2004-69. Service protection including interface redundancy for Competitor Digital Network services was mandated in Telecom Order 2005-279 but not in Telecom Order 2006-123.

36. The Cable Carriers further note that dynamic allocation of traffic among different ports is not a functionality that is currently enabled on the equipment used for TPIA. It would involve a major redesign of the TPIA architecture. It would need to be developed and tested, and may not prove technically feasible. The Cable Carriers have not developed estimates of the time and resources required to test the feasibility of dynamic allocation.

37. If dynamic allocation was feasible and implemented, it would involve changes that were not contemplated in the TPIA cost studies filed in the proceeding leading to TRP 2011-703. This would require changes to the tariffs so as to allow for appropriate cost recovery.

38. Given the operational and technical limitations associated with dynamic allocation, support for full redundancy of the ports on a dynamic basis would require activating and reserving both ports and capacity for use by the wholesale ISP customer. These facilities cannot be used for any other purpose. Reserving capacity and ports imposes a cost, even if they are not actually used to transport traffic for the wholesale ISP customer. It is reasonable to expect the Cable Carrier would be compensated for these facilities.

39. The CNOC Application argued that the wholesale ISP customer should only pay for the capacity that is used, the implications being that redundant capacity and ports that are activated and reserved for the wholesale ISP customer are not actually "in use". However, because the redundant capacity and associated ports would be activated, there is nothing that would prevent the use of these facilities at any time. The Cable Carriers would need to implement measurement tools to track actual usage on these facilities, notwithstanding that the Commission rejected capacity measurement in TRP 2011-703.[22]

40. It is apparent from the CNOC Application that a key issue with redundancy is that the wholesale ISP customer should not have to pay for any unused capacity.[23] The matter of whether the wholesale ISP customer should pay for the costs associated with providing redundant capacity was discussed during the oral hearing leading to TRP 2011-703.

> 5415 THE CHAIRPERSON: Mr. Rocca, that's twice now you have made this redundant point. I don't get it.

[22] TRP 2011-703, paragraph 53.

[23] CNOC Application, paragraph 42.

> 5416 If you were building rather than leasing you would take the business risk of building the redundancy or not? If it's not used, you have spent a lot of money for something that you don't need to.
>
> 5417 Why should it be any different when you are leasing it? I don't get this.
>
> …
>
> 5420 THE CHAIRPERSON: I asked Mr. Rocca about his question of redundancy and he basically says: If I have to use a redundant line I will have to pay for it even if I don't use it. I say that's the risk of business, you have that whether you build or lease. I don't know why because you are leasing you should get a better risk factor.[24]

41. It is evident from this exchange that if a wholesale ISP customer wants to have access to additional capacity and ports, whether for redundancy or any other purpose, then it should accept the responsibility for paying for that access.

42. TRP 2011-703 endorsed this position when it concluded that the wholesale ISP customer should assume the risks and responsibilities for the network capacity it requires.[25] It would undermine this principle to mandate dynamic allocation for redundancy without any requirement the wholesale ISP customer pay for the additional capacity and interface resources needed to support this function.

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[24] TNC 2011-77, Transcript Volume 5, July 18, 2011, at lines 5415 to 5420.

[25] TRP 2011-703, paragraph 54.

(D) Dynamic Allocation for Load Balancing

43. In addition to discussing redundancy, CNOC's Application referred to load balancing.[26] Although no specific example was offered, it is presumed this would allow the wholesale ISP customer to change the amount of capacity associated with each of the ports at the interface on a dynamic basis. For example, a wholesale ISP customer has two ports with 600 Mbps of capacity allocated to each and it would like to have the option dynamically changing the allocation to 800 Mbps and 400 Mbps of capacity for the two ports.[27]

44. As noted in the previous discussion on redundancy, dynamic allocation is not currently available and may not be technically feasible. Even if it was technically feasible, it would necessitate monitoring the use of the ports to ensure the wholesale ISP customer did not exceed its overall capacity. For example, such an arrangement could allow the wholesale ISP customer to increase the capacity load up to 800 Mbps on one port while continuing to use 600 Mbps on the other port. As noted above, this is contrary to the Commission's decision to reject CNOC's proposed 95th percentile capacity model because, among other reasons, it would have required measuring the capacity as it was actually used.[28]

45. The Cable Carriers submit that the Commission was deliberate in its decision to require the wholesale ISP customers to assume the risk and responsibility for planning and managing the capacity required by their end users, as noted previously. There is no reason why this should not include responsibility for ensuring that the traffic is routed to the Cable Carrier's interface so that the load imposed on each port does not exceed the amount allocated to it. The wholesale ISP customer's ability to manage the flow of traffic in this manner was discussed in Section II (B).

46. Implementing dynamic allocation for load balancing purposes, even assuming it could be done, would relieve wholesale ISP customer of its responsibilities under the Commission's approved capacity model.

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[26] CNOC Application, paragraphs 78, 81.

[27] It is assumed in this example that the capacity of each port is capable of supporting the higher allocation.

[28] TRP 2011-703, paragraph 53.

(E) Dynamic Allocation Requires Measuring Actual Capacity Used

47. CNOC's request for dynamic allocation contemplates allowing the wholesale ISP customer to shift the capacity it has purchased across multiple ports at the interface whenever it finds it necessary or desirable. It must be understood that enabling this functionality has much broader implications than adding a new feature. As the discussion of redundancy and load balancing illustrate, dynamic allocation would necessarily introduce the requirement to measure the actual amount of capacity used.[29]

48. In a scenario where dynamic allocation was implemented, the amount of capacity used at each activated port assigned to the wholesale ISP customer could vary over the course of the month.[30] Each of these ports would need to be monitored to determine the amount of capacity actually used.

49. Statements in CNOC's Application appear to acknowledge that one of the outcomes of implementing dynamic allocation would require adopting a capacity model that involved measuring and paying only for the capacity used at the interface.

> The only capacity for which an ISP should pay is the total capacity employed by the ISP that crosses the interfaces between the ISP and a cable carrier's network.[31]

50. It would be the responsibility of the Cable Carrier to provision all of the ports to their total potential capacity even though only a portion of that capacity may be paid for at the end of the billing period.

51. The effect of dynamic capacity allocation would be to replace the capacity model chosen by the Commission with one that afforded the wholesale ISP customer with the benefits of CNOC's 95th percentile capacity model. The Commission specifically rejected this model in favour of the MTS Allstream model.

52. The 95th percentile model would have charged the wholesale ISP customer based on the actual traffic, measured in Mbps, passed through a specific network point in a month.[32] The MTS Allstream capacity model that prevailed in TRP

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[29] There are technical and operational limitations to implementing alternatives that do not require activating and reserving additional capacity and ports, as noted in section II (C).

[30] Each port has a maximum capacity.

[31] CNOC Application, paragraph 76.

[32] TRP 2011-703, paragraph 25.

2011-703 assesses charges to the wholesale ISP customer based on a predetermined amount of capacity.

> However, in contrast to the models mentioned above, the independent service provider would be responsible for predetermining the amount of capacity it requires, which it would be unable to exceed until it purchases more.[33]

53. As has been demonstrated, implementing dynamic allocation would necessitate monitoring and billing for actual capacity used on an after-the-fact basis, contrary to the Commission's decision that the wholesale ISP customer assumes the responsibility of predetermining the capacity it requires. For the reasons discussed in Section II (A), the Commission should not overturn its determinations in TRP 2011-703.

III. Capacity Ordering Intervals

54. At paragraph 85 of CNOC's Application, it requested the Commission to order the Cable Carriers to amend their TPIA tariffs to implement changes to network capacity requested by wholesale ISP customers "very quickly (i.e., in real time or no later than two business days after such a request is made)". CNOC's rationale for this request provided by CNOC was that it would allow independent ISPs to "deal with dynamic changes that can occur rapidly in retail markets."[34]

55. CNOC also argued that, absent rapid response times to requests for changes in capacity, the Cable Carriers would be unduly discriminating against wholesale ISP customers, contrary to section 27(2) of the *Telecommunications Act*.

56. The Cable Carriers submit that it would not be reasonable to mandate the very short order processing intervals sought by CNOC for a number of reasons.

57. The Commission was explicit in approving the capacity model that it would be the responsibility of the wholesale ISP customers to assume the risk and responsibility associated with planning and managing their network capacity requirements.[35] Requiring the Cable Carriers to respond virtually instantaneously

[33] TRP 2011-703, paragraph 26. The footnote to this statement also indicated that the amount of capacity would be purchased in specified amounts on a monthly basis.

[34] CNOC Application, paragraph 83.

[35] TRP 2011-703, paragraph 54, 56.

to requests to change the network capacity of wholesale ISP customers would reverse the burden of the risk and responsibility for managing the network capacity.

58. The capacity model approved by the Commission in TRP 2011-703 was based on MTS Allstream's proposed model. Under that proposal, the wholesale ISP customer would inform the network provider each month how much capacity it expected would be required in the following month. The month-to-month nature of the model was explored extensively during questioning of the MTS Allstream panel of representatives during the oral hearing.[36] The record of the proceeding demonstrates that the MTS Allstream capacity model requires the wholesale ISP customer to place an order for the required capacity in advance and was never intended to accommodate changes on the fly.

59. The Commission's decision in TRP 2011-703 to choose the MTS Allstream capacity model over CNOC's preferred model based on 95th percentile clearly favoured requiring the wholesale ISP customer to "predetermine" the amount of capacity required.

> With respect to CNOC's concern that independent service providers would be required to estimate and predetermine capacity under the MTS Allstream capacity model, the Commission considers that **such a requirement appropriately shifts to the independent service providers the risk and responsibility associated with planning and managing the impact their customers will have on the network providers' networks**. This contrasts with the 95th percentile capacity model, where the network provider would assume all responsibility to predict and manage the independent service provider's usage of its shared network.[37] (emphasis added)

60. Very short order processing intervals would have the same impact as if the Commission had chosen CNOC's 95th percentile capacity model. Granting the request would shift the responsibility to predict and manage the wholesale ISP customer's usage to the Cable Carriers. The Commission rejected this approach to capacity billing in TRP 2011-703 and there is no basis for reversing this determination.

61. It would impose on the Cable Carriers the obligation to be ready to serve potentially large increases in capacity on little or no notice. This would

[36] TNC 2011-77, Transcript Volume 4, July 14, 2011, at lines 4334 to 4343, and 4536 to 4541.

[37] TRP 2011-703, paragraph 54.

undermine the Cable Carriers' ability to plan and manage their networks, which would have repercussions not only for the wholesale ISP customers but all end-customers.

62. Cable Carriers must plan well in advance to accommodate increases in capacity on their networks. It typically requires several months lead time to complete the process of augmenting capacity. In contrast, the TPIA tariffs allow wholesale ISP customers to increase capacity on just one month's notice. This affords them a significant advantage compared to the planning horizon for Cable Carriers. It is a benefit that comes by virtue of the fact that wholesale ISP customers lease, rather than build, the network.

63. The request for very short ordering intervals is also at odds with industry practice for similar wholesale facilities. First, MTS Allstream indicated that its proposal would require orders to be placed a month in advance and could only be adjusted on a monthly basis, not daily. Second, the standard for fulfilling orders for local interconnection trunks is 20 business days where capacity is being augmented and 35 business days for new trunk groups.[38] Third, the Commission established a one month service interval for augmenting TPIA POIs in Telecom Decision 2004-69. The Commission reaffirmed this interval as appropriate in Telecom Decision 2011-482, contrary to a previous application by CNOC to reduce the interval to 14 days.

64. The widespread use of longer service ordering intervals for wholesale services, including ancillary services to TPIA, further demonstrates that there is no basis to CNOC's argument that very short order intervals are required to satisfy section 27(2) of the *Telecommunications Act*. The Commission's past determinations demonstrate that service ordering intervals of one month do not give rise to any undue preference or or discrimination.

IV. TPIA Speed Matching

65. At paragraph 89 of CNOC's Application, it stated that the Cable Carriers should confirm that TPIA service will be provided in accordance with the speed-matching requirements set out in Telecom Decision 2006-77 (TD 2006-77) at

[38] Telecom Decision 2005-20, Finalization of quality of service rebate plan for competitors, Appendix B, indicator 1.11 "Competitor Interconnection Trunk Order Service Interval Met".

disaggregated POIs during the transition period.[39] If such confirmation is not forthcoming, then the Commission should order the Cable Carriers to comply.

66. The speed-matching requirements in TD 2006-77 require the Cable Carriers to include in their TPIA tariffs the same speed offerings that are available with their retail Internet services.[40] In Telecom Regulatory Policy 2010-632 (TRP 2010-632), the Commission directed the Cable Carriers to modify their TPIA tariffs so as to provide wholesale ISP customers with aggregated POIs.[41]

67. The Cable Carriers are committed to complying with the Commission's speed matching requirements established in TD 2006-77, as amended by the determinations in TRP 2010-632, TD 2011-482, and TRP 2011-703, wherever technically feasible. However, the Cable Carriers submit that CNOC's request seeks to expand the scope of these requirements.

68. The Commission has previously ruled on the scope of the speed-matching requirements for TPIA services with respect to disaggregated POIs. TD 2011-482, issued in response to a previous CNOC application, established that the scope of the speed-matching requirements for TPIA services at disaggregated POIs shall be based on whether the comparable retail service speed was offered prior to the release of TRP 2010-632.

> In contrast, Videotron introduced its retail service after the release of Telecom Regulatory Policy 2010-632. At that time, the Commission had directed the cable companies to introduce aggregated POIs and had not specified any transition requirements. Accordingly, the Commission concludes that Videotron is not required to implement its new retail speed on its disaggregated POIs.[42]

69. The ruling effectively establishes August 30, 2010 as the date after which any new retail Internet service speeds need not be made available at disaggregated POIs. Granting the relief sought in CNOC's Application would reverse the Commission's ruling in TD 2011-482. CNOC has failed to present any argument as to why the Commission's ruling is in error.

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[39] The transition period is defined in TRP 2011-703 as the two year period beginning November 15, 2011.

[40] TD 2006-77, paragraph 109.

[41] TRP 2010-632, paragraph 88.

[42] TD 2011-482, paragraph 20.

70. The decision to implement aggregated POIs was at the behest of the wholesale ISP customers. It was argued that aggregated POIs would allow them to better compete by aggregating traffic to be exchanged at a single POI.[43]

71. The Commission directed the Cable Carriers to implement aggregated POIs to take the place of disaggregated POIs. It was not the intent of TRP 2010-632, or any subsequent determination, that disaggregated POIs be maintained indefinitely. This is reflected in the Commission's statement in TRP 2011-703 that the Cable Carriers are not required to provide service at disaggregated POIs after the end of the transition period.[44]

72. A requirement to expand the scope of services at disaggregated POIs is very different from the requirements of the transition period established in TRP 2011-703. The transition period requires the Cable Carriers to maintain service levels at disaggregated POIs for a limited time period. The Commission's determination to set the length of the transition period at two years was based on avoiding any requirement for the Cable Carriers to make further investments in the disaggregated POIs during that time.

> The Commission considers that a transition period is necessary to give independent service providers the time necessary to fulfill or modify their existing term contracts and to modify their business and marketing plans in order to take advantage of the new aggregated POIs. The Commission also considers that implementing a transition period that is too long would result in cable carriers having to make investments to maintain disaggregated POIs.[45]

73. CNOC's request would require the Cable Carriers to do far more than simply maintain the disaggregated POIs. It would require the Cable Carriers to make additional investments to turn up newer, higher service speeds at disaggregated POIs. This would include, among other things, equipping head-end equipment to accommodate this service at the disaggregated POIs.[46] Such investments could not be recouped from wholesale ISP customers since such interconnections

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[43] TRP 2010-632, paragraphs 81 and 139.

[44] TRP 2011-703, paragraph 153.

[45] TRP 2011-703, paragraph 152.

[46] For example, modifications to CMTSs and network routers to authorize each new service speed and ensure appropriate routing of traffic for each TPIA customer. This work must be undertaken for each disaggregated POI where the new service speed is to be enabled.

would not be in use after 2013. It would also increase operational complexity, which may divert resources away from fulfilling existing TPIA obligations.

74. The Cable Carriers have already invested in the implementation of aggregated POIs with the expectation that all wholesale ISP customers will connect at these POIs. A decision to reverse the ruling in TD 2011-482 would undermine the transition process and the ability of the Cable Carriers to recoup their investments in a timely manner.

75. The Cable Carriers should not be ordered to make unnecessary investments in disaggregated POIs to duplicate the same range of service speeds that are already available at aggregated POIs.

76. CNOC's request is inconsistent with the Commission's purpose for mandating aggregated POIs in TRP 2010-632, that being to establish a symmetrical level of aggregation provided by the Cable Carriers' TPIA services and the ILECs' aggregated ADLS access services.[47]

77. It is also inconsistent with the Commission's determination in TRP 2010-632 to not require the Cable Carriers to implement a head-end-based cable access service, or for the ILECs to implement a corresponding CO-based ADSL access service.[48] As noted in that ruling, there would not be a substantial lessening or prevention of competition as a result.

78. The Cable Carriers submit that, by the same reasoning, there is no basis to mandate the requirements for speed matching to apply to newer, high speed services at disaggregated POIs.

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[47] TRP 2010-632, paragraph 85.

[48] TRP 2010-632, paragraphs 139-140.