



Compliance and Enforcement and Telecom Decision CRTC 2021-268

PDF version

Ottawa, 5 August 2021

Public record: 8621-C12-01/08

CISC Network Working Group Consensus Report – Canadian traceback trial report

The Commission **approves**, with one modification, the recommendations made in the CRTC Interconnection Steering Committee Network Working Group’s Consensus Report relating to the traceback process. The Commission also **approves** the rollout of the traceback process toward full deployment to commence as of the date of this decision.

Background

1. In Compliance and Enforcement and Telecom Decision 2018-32, the Commission stated that a standardized, industry-wide call traceback process is needed in order to determine the origin of nuisance calls. The Commission considered that such a process would enable corrective action to be taken at, or close to, the source of such calls, thereby reducing their volume and further protecting the privacy of Canadians. To that end, the Commission requested that the CRTC Interconnection Steering Committee (CISC) develop an industry-wide call traceback process and file the corresponding report with the Commission by 25 October 2018. This deadline was extended to 14 December 2018 in Compliance and Enforcement and Telecom Decision 2018-32-1 and to 28 February 2019 in Compliance and Enforcement and Telecom Decision 2018-32-2.
2. On 14 February 2019, the CISC Network Working Group (NTWG) filed *Canadian Traceback Interim Process*, Consensus Report NTRE064, in which it proposed an interim traceback process and recommended that the process be subject to a trial. The Commission subsequently approved report NTRE064 in Compliance and Enforcement and Telecom Decision 2019-215, stating that the trial was to be completed by 19 December 2019 and that the final report was to be submitted by 19 March 2020. Subsequently, in a [letter](#) dated 2 July 2020, the Commission extended the deadline to submit the final report to 19 October 2020. On 30 October 2020, the NTWG produced the final report, NTRE067 (the Report).

The Report

3. The purpose of the Report is to evaluate the trial results, define terms and standards related to the traceback process, identify potential obstacles, submit some short-term

recommendations, and propose potential areas of improvement in the traceback process.

4. In the Report, the NTWG discussed two main issues: (i) trial objectives and observations and (ii) recommendations.

Trial objectives and observations

5. The traceback trial was conducted by nine telecommunications service providers (TSPs), which conducted 88 traceback attempts on 49 different phone numbers. The traceback attempts were conducted on 26 numbers originating from Canadian test lines and on 23 numbers from TSP subscribers who had received potential calls violating the Commission's [Unsolicited Telecommunications Rules](#).
6. The nine participating TSPs represented all types of TSPs, including incumbent local exchange carriers, competitive local exchange carriers, small incumbent local exchange carriers, resellers, and wireless carriers. Some of the TSPs were less successful than others in their attempts, but these differences seem to be unrelated to the type of TSP. In sum, all types of TSPs seemed capable of completing traceback attempts.
7. In the traceback trial, the NTWG tried to identify the time intervals and volume of traceback requests that could be used as a guideline once the traceback initiative is operational. The NTWG concluded that the following would be reasonable timeline guidelines: allowing two business days to answer a traceback request and conducting 40 tracebacks per week, assuming a similar distribution of tracebacks between TSPs.
8. To clearly distinguish its results, the NTWG defined in the Report complete and incomplete attempts as follows:
 - Complete Traceback: For a Traceback instance, the Traceback was correctly initiated and all call legs in Canada were found. Every Canadian TSP that was involved in the call were able to find the portion of the call in their network systems. Complete Tracebacks also include Traceback instances where the Traceback ended at the Canadian border.
 - Incomplete Traceback: [...] the Traceback instance did not provide call origination information or upstream information from Canadian TSPs.
9. Of the 88 tracebacks attempted during the trial, 63 were completed, 12 were incomplete, and 13 were erroneous.
10. In the Report, the NTWG identified the following reasons to explain the incomplete attempts:
 - incorrect data entry (e.g. incorrect time/date stamps, time zone ambiguities, forms not completed correctly, traceback initiation form incorrectly completed, etc.);

- invalid telephone number (in one case, the number was a location routing number); and
- call not found (including upstream and terminating TSPs).

11. The following factors negatively affecting the completion rate were identified in the Report:

- no response from the upstream TSP;
- operational factors, such as
 - other operational priorities and competing corporate projects;
 - call records not available due to length of time between when the call was made and when the traceback request was received; and
 - no data available because the call originated and terminated on the same local switching system (in that specific case, there were no Call Detail Records or Common Channel Signalling 7 trunk signalling information that captured the call under investigation).
- personnel related issues, such as
 - internal resource skill levels and their ability to interpret traceback logs;
 - new upstream TSP contact information could be missed;
 - staff vacations or turnover; and
 - emails being sent to the wrong person or being blocked due to a blacklist or spam catcher.

12. In the Report, the NTWG defined successful and unsuccessful traceback attempts as follows:

- **Successful Traceback:** A Traceback instance that is complete and the Traceback instance found the Source of call.
- **Unsuccessful Traceback:** A Traceback instance that did not find the Source of call.

13. Of the 63 completed attempts as part of the trial, 36 were successful and 27 were unsuccessful.

14. The NTWG identified the following reasons to explain unsuccessful attempts: tracebacks being forwarded to TSPs not participating in the trial and calls being traced to countries other than Canada, such as the United States.
15. The NTWG noted that the traceback success rate is a function of the completion rate; if a traceback attempt is not completed, it cannot be successful. Accordingly, each measure that will enhance the completion rate will have a positive impact on the success rate. To that end, the NTWG identified the following measures that may improve the Canadian traceback process:
- improving the awareness and knowledge TSPs have of the traceback process through, for example, a user guide;
 - removing irrelevant information from the traceback form to limit the information needed to be inserted by participating TSPs;
 - automating the traceback form on a website to ensure the necessary information is filled in before the form moves to an upstream TSP; and
 - centralizing the role of the traceback monitor.
16. In addition, the NTWG identified the following measures that may improve the reach of the traceback process:
- ensuring that all Canadian TSPs are actively participating in traceback through an onboarding process; and
 - establishing agreements with other countries regarding the use of traceback to investigate cross-border calls.
17. The terminating TSP played the role of traceback monitor during the traceback trial. The majority of the participating TSPs disagreed with the idea that a TSP should play the role of traceback monitor. The participants identified the automation and the centralization of the process as the two main variables that would impact the traceback monitor role.
18. All TSPs agreed that the traceback process should be more automated. Automating the process would reduce the actions required by the traceback monitor. A fully automated process would render the role of traceback monitor unnecessary.
19. The majority of participating TSPs agreed that the traceback process should be more centralized. This centralization is only targeting the traceback process and exchange of information between the TSPs. In regard to the internal processes of TSPs, because these processes are so specific, most TSPs felt it would not be efficient to centralize them.

Recommendations from the NTWG

Short-term

20. Pending a few short-term traceback process enhancements, the NTWG is of the opinion that the traceback process could be deployed imminently. A swift launch would provide the opportunity for more TSPs to familiarize themselves with the process. A wider participation from TSPs would enable the NTWG to identify new potential features and enhancements as it obtains additional feedback.
21. The NTWG recommended the following traceback time intervals and maximum throughput (i.e. the total amount of traceback that could be performed over a certain amount of time) guidelines:
- allow a maximum of two business days to initiate a traceback request from the date the suspect call took place;
 - allow two business days for each TSP to respond to a traceback investigation request;
 - retain TSP call data for ten calendar days;
 - limit the number of traceback initiations per week assigned to a single terminating TSP to five; and
 - limit the number of traceback initiations to the industry to 40 per week.
22. The NTWG recommended that before launching the traceback process, it would complete the following adjustments:
- improving the traceback form;
 - assigning a traceback process owner to provide a single point-of-contact for all process matters; and
 - developing an onboarding process for adding new TSP participants to the traceback ecosystem.
23. The NTWG recommended that the Commission require all Canadian TSPs to participate in the traceback process.

Long-term

24. The NTWG noted in the Report that the traceback trial demonstrated that calls crossing the federal border are problematic. It is impossible to determine the source of the call since only Canadian companies are participating in the traceback trial. This situation is a major concern for the NTWG, which noted that most of the fraudulent calls originate from outside of Canada. To address this matter, the NTWG recommended collaborating with the Federal Communications Commission and other foreign national agencies to enhance the reach of the Canadian traceback process.

25. In Compliance and Enforcement and Telecom Decision 2021-123, the Commission mandated Canadian TSPs to implement STIR/SHAKEN, which will impact traceback requests. Consequently, the NTWG was not able to evaluate the future need for traceback. Due to these evolving environments, it is difficult to formulate a long-term vision. However, the NTWG did note that if the volume of traceback requests grew to justify the automation of the process and a centralized monitoring function, there would be costs associated with these changes. The NTWG suggested that, if necessary, a task force could be created to examine these needs. It could also assess the related costs and propose an appropriate cost allocation plan.

Commission's analysis and determinations

26. The Commission supports the NTWG's recommendations that the following adjustments should be completed by the NTWG before onboarding a large number of Canadian TSPs:

- improving the traceback form;
- assigning a traceback process owner to provide a single point-of-contact for all process matters; and
- developing an onboarding process for adding new TSP participants to the traceback ecosystem.

27. With regard to the improvement of the traceback form, the Commission supports the NTWG's suggestion in the Report that the form or process should incorporate as much automation as possible. For instance, the form could include an error-checking function that would prevent the form from being sent to the next step unless all required fields were correctly completed.

28. Regarding the development of the onboarding process, the Commission agrees with the NTWG's conclusion in the Report that the traceback process will not be as effective unless all TSPs participate in the system. The Commission considers that it would not be appropriate for it to mandate the participation of all TSPs, as the NTWG recommended in the Report, at this time. The Commission considers that it would be preferable to wait until an onboarding process is developed to facilitate the integration of as many TSPs as possible. The need for the Commission to consider the question of whether all TSPs should be mandated to participate may be revisited at a later date, as part of a public process to consider the issue, following an evaluation of the success of the onboarding process.

29. In the Report, the NTWG outlined the reasons underpinning its suggested timeline for proceeding with a traceback attempt. The Commission understands the limited period for data retention and agrees that traceback attempts should be quickly processed for this reason. The Commission considers the Report's timeline for traceback attempts, outlined below, to be reasonable and considers that it should be implemented:

- allow a maximum of two business days to initiate a traceback request from the date the suspect call took place;

- allow a maximum of two business days for each TSP to respond to a traceback investigation request; and
 - TSPs must retain call data for ten calendar days.
30. The Commission also considers the maximum throughput guidelines recommended in the Report to be reasonable. It is expected that during the first months following the launch of the traceback process, the number of requests will not exceed the volume limitations set by the NTWG. However, as more TSPs are onboarded, the number of requests is expected to grow. The Commission considers that automating the process and developing expertise through experience will enable participating TSPs to enhance their traceback capacities without requiring major changes or costs.
31. The Commission considers that the trial process provided enough positive results to allow the trial phase to conclude and the rollout of the traceback process toward full deployment to commence as of the date of this decision. As noted above, the Commission expects the necessary improvements to be implemented in a timely manner.
32. The Commission agrees with the NTWG's conclusion in the Report that the traceback process's effectiveness depends on the number of TSPs participating in the process. The Commission therefore considers that it would be more efficient to give the NTWG a period of 180 days from the publication date of this decision to onboard more TSPs. After that time, the Commission could evaluate whether it is necessary to require all Canadian TSPs to participate in the traceback project. As explained in the Report, an understanding of the traceback form and process is a key factor in the success of a traceback attempt. This extended launch period will provide the NTWG with the opportunity to test its onboarding material and make adjustments as necessary to ensure efficiency.
33. The Commission emphasizes its expectation that all TSPs providing voice telecommunications services in Canada should cooperate and participate in the traceback process and comply with the terms and conditions established by the NTWG. If the voluntary onboarding process does not reach the desired outcome of having an efficient traceback process, the Commission is prepared to take further steps, including considering whether it is necessary to mandate that all Canadian TSPs participate in the process. To that end, the Commission requests that the NTWG file a report, as set out in the Appendix to this decision, to provide the information and insight necessary for the Commission to determine whether to initiate a process to consider mandatory participation by all Canadian TSPs.
34. The Commission considers that it would be premature to identify the necessity to further automate the traceback process, other than the automation function already identified above in paragraph 27. Depending on the evaluation of the traceback requests, for example, in the event of significant growth, automation and centralized monitoring options may need to be revisited. The report to be filed by the NTWG (see the Appendix to this decision) will help assess the situation.

35. Accordingly, the Commission **approves** the following recommendations for traceback volume limitation made in the Report:

- Limiting the number of traceback initiations per week assigned to a single terminating TSP to five for the first 90 days from the publication of this decision; and
- Limiting the number of traceback initiations to the industry to 40 per week.

36. The Commission has one modification to the traceback capacities outlined in the Report. It expects that the limit of the number of traceback initiations per week assigned to a single terminating TSP will grow from 5 to 10 within the first 90 days of the publication of this decision.

Conclusion

37. The Commission **approves** the rollout of the traceback process toward full deployment to commence as of the date of this decision.

38. The Commission **approves** the NTWG's recommendations in the Report for traceback capacities with one modification, as set out below:

- initially limiting the number of traceback initiations per week assigned to a single terminating TSP to 5, recognizing that this limit is expected to increase to 10 within the first 90 days of the publication of this decision; and
- limiting the number of traceback initiations to the industry to 40 per week.

39. The Commission requests the NTWG to file a report, as set out in the Appendix to this decision, within 120 days of the date of publication of this decision, and covering the previous 90 days, and quarterly thereafter for a one-year period.

Policy Directions

40. The 2006 Policy Direction¹ and the 2019 Policy Direction² (collectively, the Policy Directions) state that the Commission, in exercising its powers and performing its duties under the *Telecommunications Act* (the Act), shall implement the policy objectives set out in section 7 of the Act in accordance with the considerations set out therein, and should specify how its decisions can, as applicable, promote competition, affordability, consumer interests, and innovation.

¹ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, SOR/2006-355, 14 December 2006

² *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation*, SOR/2019-227, 17 June 2019

41. The Commission's decision to approve the consensus recommendations in the Report by the NTWG concerning the traceback process will serve to protect Canadians from the harms of nuisance calls and advances the policy objectives set out in paragraphs 7(a), (b), (f), (g), (h), and (i) of the Act.³ The traceback of nuisance calls will be an efficient and effective means to support enforcement against these types of calls.
42. The traceback process will serve to protect consumer interests and enable innovation in telecommunications services, consistent with the 2019 Policy Direction.

Secretary General

Related documents

- *STIR/SHAKEN implementation for Internet Protocol-based voice calls*, Compliance and Enforcement and Telecom Decision CRTC 2021-123, 6 April 2021
- *CISC Network Working Group – Consensus report NTRE064 regarding an interim call traceback process*, Compliance and Enforcement and Telecom Decision CRTC 2019-215, 19 June 2019
- *Measures to reduce caller identification spoofing and to determine the origins of nuisance calls*, Compliance and Enforcement and Telecom Decision CRTC 2018-32, 25 January 2018; as amended by Compliance and Enforcement and Telecom Decision CRTC 2018-32-1, 24 October 2018; and 2018-32-2, 18 December 2018

³ The cited policy objectives are 7(a) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions; (b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada; (f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective; (g) to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services; (h) to respond to the economic and social requirements of users of telecommunications services; and (i) to contribute to the protection of the privacy of persons.

Appendix to Compliance and Enforcement and Telecom Decision 2021-268

Status report

The status report must include the following information:

1. The participating TSPs.
2. The number of traceback requests initiated.
3. The number of complete/incomplete traceback requests.
 - a. For incomplete requests, the explanation for the result should be indicated.
4. The number of successful/unsuccessful traceback requests.
 - a. For unsuccessful requests, the explanation for the result should be indicated.

When a traceback request is unsuccessful or incomplete due to an action from a participating telecommunications service provider (TSP),⁴ it should be indicated whether this specific TSP is an original CRTC Interconnection Steering Committee (CISC) Network Working Group (NTWG) member or an onboarded TSP. This data is sought to allow the Commission to assess the effectiveness of the onboarding material, and is not intended to be used to single out a specific TSP.

The status report should include any information that the NTWG considers pertinent for the Commission relating to the tracking of the evolution of traceback implementation, identifying potential problems and, where necessary, providing the proposed solutions.

The status report should be filed with the Commission within 120 days of the date of publication of this decision, and covering the previous 90 days, and quarterly thereafter for a one-year period.

⁴ For example, in case of human error, when there is too long a delay in answering, or when the wrong contact person is sought.