



Compliance and Enforcement and Telecom Decision CRTC 2019-215

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CISC Network Working Group – Consensus report NTRE064 regarding an interim call traceback process

*The Commission **approves** the CRTC Interconnection Steering Committee (CISC) Network Working Group’s report regarding an interim call traceback process to determine the origins of nuisance calls, including the recommendations set out therein, with the exception of the proposed deadline for the submission of a final report regarding a traceback trial: the Commission determines that the trial is to be completed by **19 December 2019** (i.e. within **six months** of the date of this decision), and that the final report is to be submitted by **19 March 2020** (i.e. within **nine months** of the date of this decision).*

Introduction

1. In Compliance and Enforcement and Telecom Decision 2018-32 (the Decision), the Commission examined measures to reduce caller identification spoofing¹ and to determine the origins of nuisance calls.² Among other things, the Commission considered that a standardized, industry-wide call traceback process to determine the origins of nuisance calls 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.
2. Accordingly, the Commission requested that the CRTC Interconnection Steering Committee (CISC) develop an industry-wide traceback process and file a report on the process for Commission review and approval.
3. On 14 February 2019, the CISC Network Working Group (NTWG) filed *Canadian Traceback Interim Process*, Consensus Report NTRE064 (the Report), in which the NTWG proposed an interim traceback process (the interim process). It also

¹ Spoofing occurs when callers deliberately falsify the caller identification (e.g. telephone number) that is sent to called parties, in order to disguise their true identity. Spoofing is often used as a means to fool called parties into divulging valuable personal information that can then be used for fraudulent or illegal purposes. It should be noted that there are instances where number substitution is used for legal or legitimate purposes, such as doctors calling patients or calls from women’s shelters.

² “Nuisance calls” refers to unsolicited telecommunications that are in non-compliance with the Unsolicited Telecommunications Rules (UTRs). Unsolicited telecommunications that are in full compliance with the UTRs are not nuisance calls.

made several recommendations regarding the interim process, which are discussed in detail below. Specifically, the NTWG requested that the Commission approve the following consensus recommendations:

- a traceback trial be conducted for telecommunications service providers (TSPs) to gain experience with the traceback process, after which the NTWG would submit a final report;
 - the Serial Method be employed and the terminating TSP act as the Traceback Monitor during the interim process for the purpose of conducting the trial;
 - the trial be completed within six months of the Commission’s decision regarding the trial, and a final report be submitted to the Commission within six months of the completion of the trial;
 - TSPs individually determine the traceback tools (i.e. sources of information) required in their respective networks, due to their unique information technology (IT) architectures and network test equipment;
 - a confidential contact list be created for the purpose of emailing TSPs and the Commission during a traceback;
 - voluntary guidelines be established for record retention based on the outcomes of a successful trial;
 - scalability data be collected during the trial;
 - the Commission ask the NTWG to investigate traceback tracking, monitoring, and data collection; and
 - the Commission resolve the policy issues set out in section 9 of the Report.
4. The Report can be found in the “Reports” section of the NTWG page, which is available in the CISC section of the Commission’s website at www.crtc.gc.ca.

Traceback process methods

5. In the Decision, the Commission noted that a national standardized traceback process was established in the United Kingdom, and that another initiative was being contemplated in the United States.
6. The NTWG noted that the Serial Method was being used in the United Kingdom to trace calls, and that it was coordinated by the Office of Communications (Ofcom) or the Information Commissioner’s Office (ICO). Under the Serial Method, Ofcom requests information from the terminating TSP,³ then from the upstream TSP⁴ that provided the call to the terminating TSP, sequentially working back to the originating

³ The terminating TSP is the TSP of the subscriber who received the call in question.

⁴ An upstream TSP is a TSP that routed the call towards the terminating TSP. An upstream TSP must report to the Traceback Monitor (described below) if the call originated in its network or if the call transited its network.

TSP⁵ through other upstream TSPs. Therefore, only TSPs that serviced the call are involved in the particular traceback.

7. In the United States, the traceback process has been industry-led. The Industry Traceback Group's (ITBG) Parallel Method was one of the projects arising from the Robocalling Strike Force in 2016,⁶ and participation in the group is voluntary. Under the Parallel Method, the call traceback request goes through a parallel or broadcast process, wherein information is requested from all participating parties at the same time.
8. Since the ITBG's traceback initiative is industry-led, and to protect the network information of TSPs that provide voice telecommunications services, very little information about the Parallel Method is publicly available. Given that it was unable to review the Parallel Method in detail, the NTWG recommended that the Serial Method be used for the interim process in Canada.

Commission's analysis and determinations

9. The Commission considers that it would be appropriate for Canadian TSPs to use the Serial Method for the core traceback functionality during the interim process, since it has the advantage of involving only the TSPs that actually carry the nuisance call. By contrast, the Parallel Method requires all participating TSPs to investigate the call, whether or not they carried it through their networks, which could result in an inefficient use of resources.

Interim process – ancillary functions

10. In the Report, the NTWG identified several ancillary functions that would need to be examined in the context of the interim process, as discussed below.

Traceback Monitor

11. The NTWG described the Traceback Monitor as the party that monitors a traceback request by receiving an email from each upstream TSP as the traceback progresses. The Traceback Monitor will inform the Traceback Initiator (i.e. the party requesting the traceback) of the final result when the traceback is completed. If an upstream TSP holds on to the request for a longer period than the standard traceback interval (e.g. two business days), the Traceback Monitor can request an update from the TSP or report the non-compliant TSP to the Commission.

⁵ For calls that originate in Canada, the originating TSP is the TSP that provides service to the subscriber who originated the nuisance call.

⁶ The Robocall Strike Force Report, dated 26 October 2016, can be found at <https://transition.fcc.gov/cgb/Robocall-Strike-Force-Final-Report.pdf>. While the filing of the NTWG's report precedes this development, the Commission is aware that, on 23 May 2019, the United States Senate passed Bill S.151, the *Telephone Robocall Abuse Criminal Enforcement and Deterrence Act*. If this bill becomes law it would require voice service providers in the United States to implement technologies to authenticate and verify telephone calls, and would further empower the Federal Communications Commission to combat robocalls.

12. The NTWG evaluated four options: (1) there is no Traceback Monitor, (2) the terminating TSP is the Traceback Monitor, (3) the party that initiated the traceback is the Traceback Monitor, and (4) there is a centralized Traceback Monitor.⁷
13. The NTWG submitted that it rejected option 1 because some form of monitoring is required. Option 3 was not chosen because it would involve assigning administrative and operational functions to the Commission, contrary to the Commission's determination in the Decision that TSPs are to be responsible for the traceback process. Option 4, which Ofcom and the ITBG use, was rejected because of the time and cost required to establish a centralized body that ultimately may not be required.
14. The NTWG did not arrive at a consensus regarding the recommendation of a Traceback Monitor; however, to move forward, the NTWG arrived at a consensus to recommend that option 2 be used on an interim basis for the purposes of conducting a trial to acquire more information about the traceback process. Under this option, the terminating TSP will perform the role of the Traceback Monitor.

Commission's analysis and determinations

15. The Commission considers that the lack of a Traceback Monitor under option 1 would result in a significantly less effective approach as compared to options 2 and 4. For example, if a TSP does not respond within a given time frame (or at all), it would be difficult to determine where the traceback failed. Under option 3, as the NTWG noted, the Commission would be required to carry out certain administrative and management aspects of the traceback process, which would be inconsistent with the determination set out in the Decision that TSPs are to be responsible for creating and managing the traceback process, including any arrangements to implement a centralized entity (option 4) to monitor all functions of traceback requests. Therefore, the Commission considers that options 1 and 3 are not appropriate options.
16. In light of the above, the Commission considers that option 2 – having the terminating TSP act as the Traceback Monitor – is an appropriate compromise for the purposes of the interim process and is consistent with the requirements set out in the Decision. The obligation for terminating TSPs to monitor the tracebacks they initiate will reduce the potential for excessive use or abuse of the traceback process, and will enable the TSPs to determine, in the event a traceback fails, where the failure occurred.

Volume of traceback requests

17. The NTWG indicated that to reduce the number of traceback requests, Ofcom identifies groups of unwanted mass calls before launching a traceback. The source will then be searched for based on a sample call from that group. The NTWG noted that in the United States, a similar method is used.

⁷ This is a centralized party that would monitor all traceback requests. The role may include additional functions such as qualifying requests, preventing duplicate requests, and limiting the volume of tracebacks.

18. The NTWG expressed concern about a high volume of traceback requests, which could impair the performance of the traceback process. The NTWG indicated that the development of a Canadian traceback process requires initial information on volume, and therefore recommended using the proposed traceback trial (discussed further below) to test request volumes in a controlled manner. This would identify technical, operational, and resource issues relating to the scalability of the interim process.

Commission's analysis and determinations

19. The Commission considers that the traceback process should be designed to work every time a traceback request is initiated by the Commission or by a TSP. Having a system that works only sometimes due to an artificial limit on the volume of requests would create an ineffective and unreliable traceback process. The Commission notes that the NTWG did not identify any technical reason to limit the volume of traceback requests. The Commission considers that some TSPs proposed limiting the volume of requests in order to reduce the amount of resources they would need to assign to the traceback process. In the Commission's view, it is the lack of sufficient resources that would inhibit the execution of tracebacks.

20. In light of the above, the Commission concludes that a traceback process that limits the volume of traceback requests is not acceptable, and determines that the final traceback process must be capable of managing the volume of traceback requests from the Commission and TSPs. Accordingly, TSPs must allocate the resources necessary to carry out tracebacks within the time frame to be determined. If TSPs wish to reduce the resources required for the traceback process, then they should either rely on automation, or create a centralized traceback monitor, as proposed in option 4 above.

Source of information and traceback completion time

21. The NTWG proposed that each TSP be responsible for determining whether to use signalling information⁸ or billing information⁹ as the source of information used to conduct tracebacks, given the unique architecture and test equipment of each TSP.

22. With respect to traceback completion time, the NTWG assumed a worst-case, multi-TSP call path involving five TSPs, and estimated that it may take up to 15 business days to execute a traceback. This conclusion was based on the process interval times listed in the Report, which were developed primarily using those

⁸ Signalling information (Signalling System 7 or Session Initiation Protocol) is examined by protocol analyzers, which are network test platforms. The information that they provide is available more quickly than billing information because it is in raw form and does not require downstream processing like billing information does.

⁹ Billing information is data generated by local, wireless, and toll switching systems for the purpose of billing subscribers or peer TSPs (for traffic imbalances). It typically takes one to three days for TSP IT systems to process raw billing data from network platforms to make it available for consolidated billing information and customer invoices.

mentioned in an Ofcom report as well as proxies from other sources, such as the Canadian Local Number Portability service standards.

23. The NTWG submitted that every attempt should be made to complete the traceback process as promptly as possible, but not so aggressively as to make it difficult for some TSPs to be compliant with requests. For example, while the use of signalling information is advantageous from the perspective of expediency in information retrieval, it should not drive the overall process completion time, given that billing information may be the preferred option for some TSPs (e.g. small TSPs and resellers).

Commission's analysis and determinations

24. The Commission considers appropriate the NTWG's proposal that each TSP individually determine which traceback tools are required in their own networks for use during the interim process. The Commission acknowledges that the completion time will be determined within the trial on a case-by-case basis, depending on the number of TSPs involved in the traceback; however, the NTWG should address any limitations related to the source of information and the completion time in its final report.

Additional matter

25. The terms "call traceback failure" and "call traceback success" were not defined in the Report. The Commission requests that the NTWG define the two terms in order to qualify a traceback result. The NTWG should also propose alternative approaches or next steps to address call traceback failures (e.g. to enable the reporting of the name of the international originating TSP when the source of a nuisance call is located outside Canada).

Compliance with traceback requirements set out in the Decision

26. In the Decision, the Commission requested that the Report include the following:
- a list of the specific and detailed information that is required by all parties to complete a traceback, and that must be shared to trace the origin of a call;
 - a description of the roles and responsibilities of all parties involved in tracebacks;
 - a description of the steps that have been taken, will be taken, or could be taken to automate the traceback process to the largest extent possible; and
 - service standards regarding the timeliness of sharing information between parties, and guidelines for the retention of call detail records.
27. The NTWG proposed a list of information required to complete a traceback, but submitted that the list is subject to modification following the trial. It also specified the information that should be shared during the traceback process. The NTWG noted

that TSPs in the United States make use of exceptions in the country's *Communications Act* to share information among TSPs, whereas in the United Kingdom, Ofcom is the central coordinator and makes each request; therefore, customer information is not shared with other TSPs.

28. The NTWG also defined the roles and responsibilities for each party that will be involved in the traceback process.
29. With respect to automation, the NTWG submitted that the recommended Traceback Monitor option may limit automation options because it is decentralized. Further, the NTWG noted that traceback requires trained TSP personnel to conduct searches for information in many types of switching or TSP back-office IT systems, each with a different data structure. Accordingly, the NTWG submitted that it is not possible to automate the traceback process at this time, though it may be possible once the industry has gained some experience.
30. Regarding the sharing of information between parties, the NTWG proposed tentative service standards (response intervals) for the traceback process that will be verified at the trial.
31. The NTWG proposed to prepare voluntary guidelines for record retention based on the successful completion of the trial. This trial would establish the average length of time needed to process a traceback request and would be used by TSPs as a guideline to recommend a record retention period.

Commission's analysis and determinations

32. The Commission has reviewed the NTWG's proposals discussed above and considers that the NTWG has provided the information requested in the Decision for the purpose of conducting the trial.

Traceback trial

33. The NTWG recommended that a traceback trial be undertaken to validate the interim process, particularly given that only a few TSPs are known to have participated in any form of call traceback in the past. The NTWG indicated that the trial would involve conducting call tracebacks with various technologies (e.g. wireline, wireless, time division multiplexing [TDM], and Internet Protocol [IP]) and categories of TSPs (e.g. rebillers and resellers) to generate information that the NTWG would use to assess the interim process. The NTWG proposed to carry out the trial over a four-week period, to be completed within six months of the date of the Commission's decision on the Report. The NTWG proposed to submit a final report within six months of the end of the trial.

34. The NTWG proposed the following trial parameters:

- the NTWG will develop a trial test plan;
- a traceback plan will set out how the Commission and TSPs will initiate tracebacks in a coordinated manner to achieve the trial objectives (discussed below);
- TSPs may conduct tracebacks on test calls to enable more TSPs to participate in tracebacks and target rebillers that may require more time to provide information;
- the Commission and TSPs can conduct tracebacks on fraudulent and abusive calls that have resulted in complaints from customers; and
- a phased volume approach will be used to test the throughput of the methods developed in the Report, e.g. five traceback requests during the first week, 10 during the second week, 15 during the third week, and 20 during the fourth week. The latter weeks of this trial will involve testing the scalability of the interim process.

35. The NTWG also identified the following objectives of the trial:

- validate the upstream TSP's time to respond to a request;
- validate the overall time to execute a traceback;
- allow individual TSPs to validate their time intervals for conducting tracebacks;
- create data that the NTWG will evaluate to create a final report;
- create data that the NTWG will use to recommend a maximum volume of tracebacks per week; and
- determine whether the traceback process will successfully find the originator of the call in question.

Commission's analysis and determinations

36. The Commission considers it reasonable for a trial, as proposed by the NTWG, to be held to validate the interim process. As indicated in the Report, a rigorous traceback process is required to obtain accurate information for potential enforcement actions. Accordingly, the Commission considers that the trial should (i) examine all possible solutions, and (ii) target individual and mass call originators, and all network technologies (e.g. TDM, wireless, and IP).

37. In addition, the Commission requests that the NTWG investigate any additional functions that would help to improve and accelerate the traceback process (e.g. traceback tracking, monitoring, and data collection functions).

38. With respect to timelines, the proposed time frame of six months from the date of this decision for the completion of the trial is appropriate; however, the Commission considers that an additional six months for preparation of the final report is unreasonable. The Commission considers that the final report should be filed with the Commission within nine months of the date of this decision.

Policy issues

39. The NTWG identified several policy issues that are beyond its mandate, but that must be resolved before the traceback process can be fully operational.

Bona fide traceback request

40. The NTWG discussed the need to define a nuisance call that meets the requirements to initiate a traceback. For example, some subscribers may refer to a telephone survey as being a nuisance call, but it may not match the Commission's definition of a nuisance call.

Commission's analysis and determinations

41. In the Decision, the Commission explained that nuisance calls are unsolicited telecommunications that are in non-compliance with the [Unsolicited Telecommunications Rules](#) (UTRs). The term "nuisance calls" does not apply to unsolicited telecommunications that are in full compliance with the UTRs.

42. The UTRs apply to calls made for the purpose of selling or promoting a product or service or for the solicitation of money or money's worth (i.e. telemarketing telecommunications), or for other purposes (e.g. market research, surveys, or public opinion polls, or calls to collect overdue accounts). A call may be non-compliant with the UTRs in various ways. For instance, telemarketers are generally prohibited from calling numbers registered on the National Do Not Call List (DNCL), from initiating telemarketing calls without being registered with the National DNCL operator, and from initiating telemarketing calls via automatic dialing-announcing device.¹⁰

43. The Commission clarifies that a bona fide traceback request is for the purpose of tracing and identifying the source of a nuisance call, which is an unsolicited telecommunication that is alleged to be in non-compliance with the UTRs.

TSP participation

44. The NTWG submitted that if the traceback process is to be effective, it requires participation by all voice TSPs, regardless of whether they are considered to be Canadian carriers pursuant to the *Telecommunications Act*. The NTWG stated that participation by all voice TSPs will not guarantee successful tracebacks, but it will improve the likelihood of successful tracebacks.

¹⁰ Certain exceptions to these rules may apply, including in certain cases where express consent has been received from the consumer.

Commission's analysis and determinations

45. The Commission considers that the traceback process will not be as effective as possible unless all TSPs that provide voice telecommunications services participate. Therefore, all TSPs that provide voice telecommunications services in Canada should cooperate and participate in the final traceback process; however, for the purpose of the trial, the NTWG should consider a sample of TSPs representing all types of Canadian TSPs. TSPs involved in the trial are required to comply with the terms and conditions for the trial that will be established by the NTWG.

Privacy concerns

46. The NTWG sought a policy determination to allow (i) TSPs to share the call detail information outlined in Appendix 1 of the Report for the purpose of conducting tracebacks, and (ii) the originating TSP to share the identity and contact information of the originating subscriber (i.e. the caller) with parties other than the Commission (i.e. the Traceback Monitor and the Traceback Initiator).

Commission's analysis and determinations

47. The Commission considers that for the traceback process to function successfully and efficiently, the process necessarily involves the sharing of call detail information among TSPs, the Traceback Monitor, and the Traceback Initiator. Without the sharing of such information, it would not be possible to trace a call to determine the originating access line. The sharing of such information is therefore necessary for the purpose of investigating compliance with the UTRs.

48. Accordingly, (i) all TSPs participating in the process must share the call details set out in Appendix 1 of the Report, as well as any additional relevant identification information, with all other TSPs involved in the traceback process (including the Traceback Monitor and the Traceback Initiator) and with the Commission; and (ii) the originating TSP must share the originating subscriber's identity and contact information, and any other relevant identification information, with the Traceback Monitor and the Traceback Initiator. The information set out above must be shared on a confidential basis and shared solely for the purpose of executing the traceback process. Further, for the purpose of the trial, the disclosure of information should comply with the confidentiality terms and conditions that will be set out in the NTWG's trial plan.

Conclusion

49. The Commission **approves** the Report and the NTWG's recommendations set out therein, with the exception of the proposed deadline for filing the final report. Specifically, the Commission modifies the time frame for filing the final report to within **nine months** of the date of this decision, i.e. **19 March 2020**.

50. The Commission also requests that the NTWG

- address any limitations related to the source of information and completion time for tracebacks in its final report;
- define “call traceback success” and “call traceback failure,” and propose approaches to address such failures;
- examine all possible solutions, and target individual and mass call originators as well as all network technologies (e.g. TDM, wireless, and IP) during the trial;
- consider a sample representing all types of Canadian TSPs for the purpose of the trial; and
- investigate any additional functions that would help to improve and accelerate the traceback process.

51. In addition, the Commission determines that TSPs are to

- cooperate and participate in the traceback process;
- assign sufficient resources to carry out traceback requests within a time frame to be determined; and
- share relevant information, in accordance with the directions (including those regarding confidentiality) set out in paragraph 48 of this decision.

Secretary General

Related document

- *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 Decisions CRTC 2018-32-1, 24 October 2018; and 2018-32-2, 18 December 2018