



Compliance and Enforcement and Telecom Regulatory Policy CRTC 2018-484

PDF version

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Implementation of universal network-level blocking of calls with blatantly illegitimate caller identification

*The Commission mandates that universal network-level call blocking where the caller identification purports to originate from telephone numbers that do not conform to established numbering plans is to be implemented by Canadian carriers and other telecommunications service providers (TSPs) that provide voice telecommunications services within **12 months** of the date of this decision. This mandate will not apply to those Canadian carriers and other TSPs providing voice telecommunications services that implement call filtering solutions within the time frame prescribed for the implementation of universal network-level call blocking.*

The Commission also sets out its findings for mitigation, notification, disclosure, redress, and monitoring approaches related to the implementation of universal network-level call blocking.

Introduction

Compliance and Enforcement and Telecom Regulatory Policy 2016-442

1. In Compliance and Enforcement and Telecom Regulatory Policy 2016-442, the Commission set out its findings on technical solutions that Canadians could use to protect themselves from unwanted unsolicited and illegitimate telecommunications. In particular, the Commission concluded that
 - universal network-level call blocking is the most effective and efficient solution to manage nuisance calls in cases where it is possible to accurately identify blatantly illegitimate caller identification (caller ID) spoofing;¹ and

¹ A spoofed number can appear as a string of digits, such as 000-000-0000, a random number, or the number of a company, person, or government entity. Telemarketers who make sales calls to customers in Canada have an obligation to identify themselves. Callers who use technology to spoof their caller ID information with inaccurate, false, or misleading information violate this requirement. Spoofed calls are not necessarily illegitimate under the Unsolicited Telecommunications Rules.

- the use of universal network-level call blocking would ensure that Canadians benefit from a minimum level of protection against nuisance calls by fully addressing those that contain caller ID information that is blatantly illegitimate.
2. In light of these conclusions, the Commission requested the CRTC Interconnection Steering Committee (CISC)² to develop practices to universally block calls with blatantly illegitimate caller ID information at the network level and to provide a report of its findings to the Commission.³ Further, the Commission stated that it expected telecommunications service providers (TSPs) to implement universal network-level call blocking of blatantly illegitimate calls on their networks following Commission approval of the report to be filed by CISC.⁴
 3. On 8 March 2017, the CISC Network Working Group submitted industry consensus report [*Universal Blocking at the Network Level of Blatantly Illegitimate Calls*](#) (NTRE056) for Commission approval (the CISC report).

Compliance and Enforcement and Telecom Notice of Consultation 2017-405

4. After having carefully reviewed the CISC report, the Commission issued Compliance and Enforcement and Telecom Notice of Consultation 2017-405 (the Notice). In the Notice, the Commission stated that it remained of the view that universal blocking applied at the network level for some forms of blatantly illegitimate caller ID would be an effective mechanism to reduce the number of unwanted illegitimate calls that reach telephone subscribers and should be implemented in Canadian TSPs' networks, recognizing that a universal network-level call blocking solution that prevents blatantly illegitimate calls from reaching the recipient requires a high level of certainty with regard to the illegitimacy of the call, in order not to inadvertently block legitimate calls.
5. Further, the Commission indicated that it was prepared to take further regulatory measures if TSPs do not take adequate steps so that Canadians are protected from receiving blatantly illegitimate calls.
6. Having identified and assessed potential types of blatantly illegitimate calls, the Commission, as set out in paragraph 22 of the Notice, proposed to require, as a condition of offering and providing telecommunications services, that all Canadian TSPs providing retail voice services implement universal call blocking at the network level for the types of calls where the caller ID (i) purports to originate from telephone numbers that do not conform to established numbering plans, i.e., the

² CISC is an industry working group with a mandate to undertake tasks related to technical, administrative, and operational issues on matters assigned by the Commission or originated by the public, that fall within the Commission's jurisdiction.

³ In paragraph 55 of Compliance and Enforcement and Telecom Regulatory Policy 2016-442, the Commission identified a number of issues that CISC was to address in its report.

⁴ See paragraph 87 of Compliance and Enforcement and Telecom Regulatory Policy 2016-442.

North American Numbering Plan (NANP) or the ITU-T E.164 (the E.164) numbering plan,⁵ and (ii) matches the telephone number of the person being called.

7. Further, the Commission proposed that TSPs be required to implement this type of mechanism within a nine-month period from a decision to implement universal network-level call blocking for the two scenarios noted above, including the testing and validation by TSPs, private branch exchange (PBX) administrators, and over-the-top (OTT) voice over Internet Protocol (VoIP) service providers, as well as the establishment of processes, as defined in Compliance and Enforcement and Telecom Regulatory Policy 2016-442.⁶
8. As part of the process set out in the Notice, parties were asked to comment on the Commission's proposal summarized in paragraph 6 above. Parties to the proceeding initiated by the Notice were also requested to provide detailed comments on the following:
 - mitigation measures that will ensure that any unintended consequences are appropriately managed;
 - notification measures that could include such things as (i) notification to customers of the pending implementation of network-level call blocking so that they can take steps to ensure their calls are not inadvertently blocked, (ii) notifications to callers that their calls have been blocked at a network level, and (iii) other notification requirements;
 - disclosure measures that could include informing called parties that calls to them have been blocked at a network level and the information that will be provided to them via the disclosure or other notification requirements;
 - redress mechanisms to prevent and remediate unintended consequences when universal network-level call blocking is deployed; and
 - approaches and methodologies to be used for monitoring the effectiveness of universal network-level call blocking and the effectiveness of measures to mitigate the potential impact on legitimate callers.
9. In addition, the Commission invited comments on its proposal to allow TSPs a nine-month period from a decision to implement universal network-level call blocking.

⁵ The international public telecommunications numbering plan E.164, as defined by the International Telecommunications Union-Telecommunications (ITU-T), specifies the international numbering plan which allows for each country or group of countries, such as World Zone 1 consisting of the United States, Canada, and 18 other countries, to specify its own numbering format. This plan specifies that the number length is a maximum number of 15 digits.

⁶ See paragraphs 54 and 55 of Compliance and Enforcement and Telecom Regulatory Policy 2016-442.

10. The Commission received interventions from the following: numerous individuals; Bell Canada et al.;⁷ Bragg Communications Incorporated, carrying on business as Eastlink (Eastlink); the Canadian Network Operators Consortium Inc. (CNO); La Coalition pour le service 9-1-1 au Québec (la Coalition); Cogeco Communications Inc. (Cogeco); Comwave Networks Inc. (Comwave); First Orion; the Independent Telecommunications Providers Association (ITPA); Integrated Telecom Solutions, Inc (Inovar); Iristel Inc., on behalf of itself and Ice Wireless Inc. (Iristel); Microsoft Corporation (Microsoft); Quebecor Media Inc., on behalf of Videotron Ltd. (Videotron); Ribbon Communications; Rogers Communications Canada Inc. (RCCI); Saskatchewan Telecommunications (SaskTel); Shaw Telecom G.P. and Freedom Mobile Inc. (collectively, Shaw); and TELUS Communications Inc. (TCI).

Issues

11. The Commission has identified the following issues to be addressed in this decision:
- Should the Commission require that, as a condition of offering and providing retail voice telecommunications services, all Canadian carriers and other TSPs are to implement universal blocking at the network level for all calls with caller ID information
 - for all calls with caller ID information that include telephone numbers that do not conform to the NANP or the E.164 numbering plan (referred to as “malformed numbers”); or
 - where the calling number is the same as the called telephone number (referred to as “mirrored calls”)?
 - If the Commission were to require that universal network-level blocking of calls with blatantly illegitimate caller ID becomes a condition of offering and providing retail voice telecommunications services, what would be the appropriate
 - mitigation measures and redress mechanisms to introduce;
 - notification and disclosure measures to introduce;
 - approaches and methodologies to be used for monitoring the effectiveness of universal network-level call blocking and the effectiveness of measures implemented to mitigate the potential impact on legitimate callers; and
 - implementation period?

⁷ Bell Canada intervened on behalf of itself (including Bell Aliant, Bell MTS, DMTS, and KMTS); and Bell Mobility Inc.; Groupe Maskatel; NorthernTel, Limited Partnership (including Ontera); Northwestel Inc.; and Télébec, Limited Partnership (collectively referred to in this decision as Bell Canada et al.).

Should the Commission require that, as a condition of offering and providing retail voice telecommunications services, all Canadian carriers and other TSPs are to implement universal blocking at the network level for all calls with blatantly illegitimate caller ID information?

12. As noted above, parties to this process were invited to comment on the Commission's proposal that, as a condition of offering and providing retail voice services, all Canadian TSPs be required to implement universal network-level call blocking (i) for all calls with caller ID information that include telephone numbers that do not conform to the NANP or the E.164 numbering plan, or (ii) where the calling number is the same as the called telephone number.

Positions of parties

13. Inovar, along with a number of the individuals participating in this proceeding, supported the Commission's proposal.
14. While welcoming the Commission's effort to find a solution to a problem that is inconveniencing many Canadians, la Coalition noted that the deployment of next-generation 9-1-1 would involve the use of proxy numbers for caller recall made by a 9-1-1 attendant, and that blocking these numbers generated by the network could be to the detriment of citizens' safety. These numbers should be distinguished from non-compliant and illicit numbers in the telephone network.
15. CNOOC supported the universal network-level call blocking of malformed numbers; however, it opposed such blocking of mirrored calls. CNOOC argued that any blocking of calls must occur on the network originating the call, not the network that is terminating the call, adding that the network changes required to implement universal network-level call blocking at the point of origination will be significantly easier to implement than requiring it on the network of the terminating TSP.
16. Bell Canada et al. disagreed with CNOOC's view, arguing that subjecting only the originating carrier to the blocking obligations would be an incomplete solution. In support of their position, Bell Canada et al. submitted that there will be instances where a Canadian consumer receives a voice call purporting to originate from a non-conformation number where that call may have traversed three separate TSP networks prior to its delivery. Any one of these three TSPs may potentially have altered the calling line identification data. TCI submitted that making the originating service provider responsible would leave customers relying on other service providers for protection from nuisance calls, service providers with whom the customer would have no relationship. Comwave opposed the blocking of malformed numbers not in accordance with the NANP, noting that universal network-level call blocking of malformed numbers could unintentionally block incoming calls from global carriers. Comwave did support universal network-level call blocking on mirrored calls.
17. The majority of the parties to this proceeding opposed a universal network-level call blocking requirement, noting, among other things, the various technical/network challenges associated with universal call blocking at the network level. Bell Canada et al., Cogeco, Eastlink, First Orion, Iristel, RCCI, SaskTel, Shaw, and Videotron

believed that if universal network-level call blocking becomes a requirement, it will encourage those who are making these calls to use methods that are not as easily detectable, and will likely cause more harm to consumers. Further, many parties to the proceeding were of the view that mandatory universal network-level call blocking will result in the blocking of legitimate calls that are not nuisance calls, and that the end-user genuinely wishes to receive.

18. While arguing that universal network-level call blocking of non-conforming NANP calls would not achieve a significant reduction in unwanted and illegitimate calls, Shaw did submit that it has experimented with universal call blocking of certain non-conforming NANP numbers at a network level and that, over time, the volume of illegitimate calls using non-conforming NANP numbers had dropped significantly.⁸
19. TCI submitted that universal network-level call blocking was intended to provide a degree of nuisance call control using existing network capabilities and processes while TSPs developed an opt-in call-filtering solution. The notion of universal network-level call blocking with enhanced functions like opt-in/opt-out capability is inconsistent with the presumption that it could be implemented quickly.
20. CNOC and Shaw submitted that, in the case of E.164, a high level measure (for example, blocking at the network level any telephone numbers that exceed the 15-digit maximum set out in the E.164) may be feasible.
21. RCCI submitted that, due to the flexibility of the E.164 numbering standard, it is possible for numbers associated with international mobile phones to consist of 10 digits, but not be compatible with the NANP, which could cause legitimate calls from these numbers to be blocked.
22. The ITPA recommended that the Commission implement an exemption from the requirement to block at the network level for small incumbent local exchange carriers (small ILECs) that serve under 25,000 telephone lines, and that the Commission be informed as to the technical or other reasons why it is currently not possible for that service provider to implement call blocking at the network level. CNOC expressed concern that adopting the ITPA's proposal for exemption may undermine any universal network-level call blocking regime by creating loopholes that could be exploited by bad actors making illegitimate calls. In CNOC's view, its proposal of requiring blocking by the originating TSP, as opposed to the terminating TSP, should address the ITPA's concerns regarding the costs of implementation.
23. Rather than adopting the Commission's proposal concerning the implementation of universal network-level call blocking, Bell Canada et al., Cogeco, Iristel, Microsoft, RCCI, SaskTel, TCI, and Videotron believed that call filtering and/or caller ID authentication would be more effective solutions. Bell Canada et al. submitted that call filtering services carry the promise of being a much more efficient and effective

⁸ Shaw indicated that it had experienced a 95% drop in the number of non-conforming NANP illegitimate calls since November 2016.

tool enabling Canadians to protect themselves against spoofing, and abusive and fraudulent calling. Cogeco submitted that it would be more productive at this juncture for all carriers' financial, human, and technical resources to be dedicated to the development and implementation of a complete and effective call filtering solution that will supersede limited and easily by-passed network call blocking measures.

24. TCI submitted that it currently offers an opt-in call filtering service that makes universal network-level call blocking unnecessary. Calls with mirrored numbers and non-conforming numbers are challenged and calls can be selectively allowed through the use of the customer's accepted list (the whitelist).⁹ Videotron submitted that very good progress is being made in the area of call filtering and believes that TSPs should focus their time, money, and energy on that solution.

Commission's analysis and determinations

Universal network-level call blocking

25. The issue of universal network-level call blocking has already been considered by the Commission on two separate occasions prior to this proceeding, namely in its determinations in Compliance and Enforcement and Telecom Regulatory Policy 2016-442 and the proposal outlined in the Notice. In both of those instances, the Commission found that universal network-level call blocking would be an effective and efficient solution to manage nuisance calls in cases where it is possible to accurately identify blatantly illegitimate caller ID spoofing.
26. The Commission notes that the parties to this proceeding opposing its proposal to require universal network-level call blocking have not provided sufficient evidence to support their position that universal network-level call blocking should not be implemented. As enunciated in Compliance and Enforcement and Telecom Regulatory Policy 2016-442, the Commission recognizes that Canadians are generally not satisfied with the current solutions available to block nuisance calls and that Canadians do not currently have access to sufficient and effective solutions to protect themselves against nuisance calls. Further, the use of universal network-level call blocking will ensure that Canadians benefit from a minimum level of protection against nuisance calls by blocking those calls that contain caller ID information that is blatantly inaccurate.
27. The Commission agrees with Bell Canada et al. and TCI that the terminating service provider can best protect its customers from nuisance calls. The terminating service provider is in the best position to ensure that calls with blatantly illegitimate caller ID are blocked, regardless of the origin of calls. Moreover, given that the called party is the customer of the terminating service provider, not the originating service provider, the terminating service provider is the one with the greatest interest in

⁹ Whitelists enable the subscriber to accept certain calls based on caller ID information. The user manually selects the list of telephone numbers to accept; it is generally limited to 10 to 30 telephone numbers per subscriber.

ensuring that its customers do not receive nuisance calls. Finally, the Commission notes that since many of the originating networks on which nuisance calls are initiated are located outside of Canada, there is no assurance that such originating service providers would perform call blocking.

28. Consumers need to have sufficient tools to identify and manage nuisance calls. However, there is no single solution that can meet the needs of Canadians when it comes to managing nuisance calls. The Commission has therefore laid out a multi-pronged approach to fight nuisance calls. The Commission remains of the view that universal network-level call blocking, as set out below, is an effective first step in that strategy, which also includes call filtering, caller authentication and validation, and industry-wide call traceback.
29. Bad actors will always exist and will always try to find ways around preventative measures, that being the very nature of fraudulent activity. It follows that the types of nuisance calls will continuously evolve, requiring continued monitoring and the introduction of new measures to combat new nefarious activities. Indeed, the multi-faceted approach noted above anticipates the evolution of the types of nuisance calls and will provide further protection to Canadians as bad actors change their tactics.
30. In light of the foregoing, and based on the record of this proceeding, the Commission concludes that its proposal set out in the Notice is appropriate, to the extent set out below.
31. With regard to the ITPA's request that the Commission implement an exception for small ILECs that serve under 25,000 telephone lines, the Commission considers that exempting some carriers from an obligation to provide universal network-level call blocking would diminish the effectiveness of this mechanism. Further, the Commission is of the view that the ITPA failed to demonstrate that this obligation constitutes an unreasonable burden, or that the burden of providing the service would outweigh the benefits to Canadians.
32. The Commission notes that other jurisdictions have opted to use universal network-level call blocking as a tool for reducing nuisance calls. For instance, in September 2017, the regulator in the United Kingdom, Ofcom, introduced a new requirement for the blocking of calls with invalid calling line identification data to help prevent those calls from getting through to customers.¹⁰ In the United States, the Federal Communications Commission (FCC) approved rules in November 2017 that allow phone companies to proactively block calls that come from certain types of phone numbers because they are likely fraudulent.¹¹

¹⁰ See Ofcom [Guidance on the provision of Calling Line Identification facilities and other related services](#) dated 30 July 2018.

¹¹ See the [FCC notice of proposed rulemaking](#) (NPRM) 17-151.

Mirrored calls

33. The evidence on the record of this proceeding shows that there are a number of legitimate reasons for using mirrored calls, such as voice mail access, and new technologies such as iWatch and home assistants (i.e. Google Home/Alexa) that rely on telephone number mirroring for communicating between devices. Blocking mirrored calls, therefore, could result in unavoidable unintended consequences for these services.
34. Given that universal network-level call blocking is applied at the network level and affects all subscribers, this solution must only apply to calls that can be confirmed as nuisance calls.
35. Accordingly, the Commission concludes that mirrored calls should not be used as a blocking criterion.

Non-conforming numbers

36. Unlike calls displaying mirrored numbers which can be legitimate, calls where the caller ID presented to end-users does not conform with the NANP can be assumed to be nuisance calls. This is because the non-conforming displayed number would be nonsensical¹² and non-dialable in nature. Blocking such numbers would be consistent with the [Unsolicited Telecommunications Rules](#) (UTRs), which require telemarketers to identify themselves and provide a telecommunications number where the call originator can be reached. The use of universal network-level call blocking for non-conforming numbers will ensure that all Canadians benefit from at least a minimal level of protection against nuisance calls.
37. The Commission notes that the international numbering plan, the E.164, applies to hundreds of different countries and involves other codes of various lengths. The Commission agrees with those parties in the proceeding that concluded that universal network-level call blocking needs to be structured to accommodate for international calls. The Commission believes that TSPs, in configuring their networks, have a very good understanding of the E.164 numbering specifications, the NANP numbers, and the dialing plans used in Canada, and, as such, will be able to determine the number formats for which calls should be blocked. Accordingly, the Commission concludes that universal network-level call blocking should apply to calls where the number being displayed exceeds the 15-digit maximum permitted by the E.164 standard.
38. As noted earlier in this decision, Shaw experimented with universal network-level call blocking of certain non-conforming NANP numbers, thus demonstrating that such blocking is technically possible. However, the Commission disagrees with Shaw's argument that the decrease in the instances of calls with non-conforming NANP numbers during its experiment supported its claim that such universal network-level call blocking of non-conforming numbers is unnecessary and cannot

¹² Malformed numbers would include nonsensical numbers where the digits would not appear in dialing plans (e.g. 000-000-0000, 000-111-0000, 222-022-2222).

be sustained. In the Commission's view, the decrease in the number of calls using non-conforming numbers supports the result of bad actors ceasing to use non-conforming NANP numbers once these types of calls were being blocked. This result provides ongoing relief to Canadians who are no longer receiving these types of nuisance calls. As such, the Commission considers that the decrease in calls using non-conforming numbers supports the effectiveness of universal network-level call blocking.

39. Further, in response to a concern raised by la Coalition, the Commission finds that 9-1-1 calls should never be blocked by any network-level call blocking measures under any circumstances.

Call filtering

40. In Compliance and Enforcement and Telecom Regulatory Policy 2016-442, the Commission considered that opt-in call filtering services could empower Canadians to manage suspected nuisance calls and provided clarity on the best practices with which TSPs could, and should, offer these services.
41. In that same decision, the Commission directed TSPs that provide retail voice telecommunications services to report to the Commission details on the opt-in call filtering service(s) they offer or propose to offer to their subscribers, including the platform on which the service(s) will be provided, where the service(s) will be available, at what price, and the extent to which the service(s) employ the best practices in that policy.
42. In the reports filed by the TSPs, as well as in the submissions presented in this proceeding by several interveners, the Commission found considerable support for call filtering. Further, the Commission has consistently viewed call filtering as an efficient and effective tool that provides additional protection to network-level call blocking to help Canadians protect themselves from nuisance calls.
43. The Commission believes that call filtering would provide more benefits to subscribers as the algorithms used in call filtering products provide the ability to detect many forms of nuisance calls that network-level call blocking simply cannot detect. In essence, call filtering is a more advanced product than network-level call blocking in protecting subscribers from nuisance calls. As a result, network-level call blocking would not provide any net additional protection from nuisance calls to customers who subscribe to call filtering services provided by their TSPs. Therefore, the Commission finds that Canadian carriers and other TSPs providing voice telecommunications services that offer call filtering services to their customers should not be required to implement network-level call blocking. More specifically, network-level call blocking will not be required of Canadian carriers and other TSPs providing voice telecommunications services that offer call filtering services that are in line with the best practices set out by the Commission in Compliance and Enforcement and Telecom Regulatory Policy 2016-442 and that are provided within the time frames for the implementation of network-level call blocking.

Conclusion

44. Based on a consideration of all the above, the Commission

- **directs** that, as a condition of offering and providing voice telecommunications services pursuant to sections 24 and 24.1 of the *Telecommunications Act* (the Act), Canadian carriers and other TSPs that provide such services shall, except as otherwise set out below, ensure that network-level call blocking is in place to block calls terminating on their network where the caller ID (i) exceeds 15 digits, or (ii) is malformed and does not conform to a dialable number for calls initiated under the NANP;
- **determines** that the condition of providing voice telecommunications services set out above does not apply to Canadian carriers and other TSPs providing voice telecommunications services that provide call filtering services to their customers that are in line with the best practices set out by the Commission in Compliance and Enforcement and Telecom Regulatory Policy 2016-442 and that are provided within the time frames for the implementation of network-level call blocking; and
- **requires** that Canadian carriers and other TSPs that provide voice telecommunications services that elect to implement call filtering services report to the Commission that call filtering services are offered to their customers, as well as provide a description of the call filtering services that are offered.

Implementation period

45. In the Notice, the Commission invited parties to the proceeding to comment on its proposal to allow TSPs nine months from the date of a Commission decision to implement universal network-level call blocking.
46. Bell Canada et al., CNOc, Cogeco, Eastlink, Iristel, RCCI, Shaw, TCI, and Videotron opposed the proposed nine-month implementation timeline. They argued that such a timeline is not feasible given the dependency on third-party technology suppliers, multiple networks, and interoperability issues that touch the TSPs' networks. They also submitted that more than nine months would be required given that filtering at the core network would be a major engineering endeavour and require significant time, resources, and potentially a complete evaluation of their costing and economic models.
47. CNOc proposed that the Commission launch a follow-up process to determine the appropriate implementation schedule.
48. Eastlink, TCI, and Videotron submitted that they would require a minimum implementation timeline of 18 months; TCI was of the view that TSPs need the extra time, but also argued that customers will need time to make necessary changes. Shaw submitted that it would require a minimum of 12 months to implement

network-level call blocking. RCCI indicated that it would require a minimum of 15 months to implement network-level call blocking on a limited number of switches. RCCI recommended that if network-level call blocking were to be mandated, it should be implemented in phases in order to mitigate the amount of blocking of legitimate calls.

49. Comwave and Inovar agreed with the nine-month implementation timeline. However, Comwave indicated that its implementation timeline may be impacted by feedback from equipment vendors and network operators.

Commission's analysis and determinations

50. The Commission notes the telecommunications industry's efforts to put in place call filtering solutions in recent years, with this being an improvement over a basic network-level call blocking measure, and that Canadian carriers and other TSPs who offer voice telecommunications services may elect to implement a call-filtering solution instead of network-level call blocking.
51. The general consensus on the record of this proceeding was that nine months is not a sufficient period of time for implementing universal network-level call blocking.
52. The Commission considers that with its determinations in this decision, along with other regulatory measures it has recently set out to deal with nuisance calls,¹³ a nine-month implementation period may place some degree of hardship on TSPs. In the Commission's view, a 12-month implementation period is a more achievable time frame for the implementation of network-level call blocking.
53. Accordingly, the Commission **directs** that the condition of service set out above will come into effect **12 months** from the date of this decision.
54. In light of these determinations respecting universal network-level blocking of calls with blatantly illegitimate caller ID where it is implemented by Canadian carriers or other TSPs providing voice telecommunications services, the Commission sets out below its determinations concerning the appropriate (i) mitigation measures and redress mechanisms to introduce; (ii) notification and disclosure measures to introduce; and (iii) approaches and methodologies to be used for monitoring the effectiveness of universal network-level call blocking and the effectiveness of measures implemented to mitigate the potential impact on legitimate callers.

Mitigation measures and redress mechanisms

55. In the Notice, the Commission requested that parties to the proceeding provide detailed comments on (i) mitigation measures that will ensure that any unintended consequences are appropriately managed; and (ii) redress mechanisms to prevent and remediate unintended consequences when universal network-level call blocking is deployed.

¹³ For example, in paragraph 29 of Compliance and Enforcement and Telecom Regulatory Policy 2018-32, the Commission required carriers to implement call authentication by March 2019.

Mitigation measures

56. Bell Canada et al., CNOc, Eastlink, and RCCI recommended customer education and awareness efforts to inform parties of the new rules and allow time for parties originating calls with illegitimate caller ID information to become compliant and to educate consumers about identifying such calls and options in not answering them. Bell Canada et al. suggested that impacted customers may call Bell Canada's support desk which will explain the alternative mitigation measures that are available to Bell Canada customers depending on their location. CNOc recommended a phase-in period which would provide automated warning notifications to calling parties that their calls will be blocked in the future and to take corrective actions.
57. Cogeco, RCCI, and TCI submitted that TSPs' customer support centres could be the point of contact where parties report instances where calls should not have been blocked. Cogeco also submitted that TSPs' customer support centres could use a central listing of all blocked numbers (i.e. blacklisted¹⁴ numbers) at the network level and update it accordingly. Further, RCCI argued that the most effective mitigation measure would be to provide customers the ability to unblock a number that has been blocked at the network level.
58. Comwave suggested that universal call blocking should be implemented by all parties on a trial basis for a period of one month. During this time, a CISC committee would be actively involved and act as a clearing house for any reports of issues. RCCI opposed Comwave's suggestion, arguing that a trial of the magnitude suggested, on live telephone traffic, would be irresponsible.
59. Eastlink and SaskTel submitted that there are no known measures that would mitigate the unintended consequences of applying universal network-level call blocking on mirrored or non-compliant calls.

Redress mechanisms

60. CNOc stated that it would be up to each individual TSP to provide a redress mechanism in the notification message that works best for its capabilities and end-users. For example, some TSPs may suggest to parties whose outgoing calls are being blocked to submit a query via a website form or to call customer support to obtain more information.
61. Eastlink indicated that it is not aware of any redress mechanisms available, or even theoretical means, to prevent and remediate unintended consequences when universal network-level call blocking is deployed.

¹⁴ Blacklists enable the subscriber to block certain calls based on caller ID information. The user manually selects the list of telephone numbers to block; it is generally limited to 10 to 30 telephone numbers per subscriber.

62. Inovar submitted that legitimate parties affected by the blocking rules should be able to file a claim with their TSP in order to ensure that their activity is not blocked. In the case of calling parties, there may be unforeseen instances where the call should not be blocked, and the ability to remediate the issue does not rest with the calling party. In this instance, a specific exception may be made as part of a network-wide whitelist for the calling party's calling line identification. RCCI did not agree with this position, arguing that if this is done, perpetrators will simply investigate to learn what telephone numbers are in the whitelist and will use those caller IDs as a means to bypass network-level call blocking. TCI submitted that Inovar's proposal is outside of the original definition of universal network-level call blocking as it was considered by CISC, and cannot be achieved with existing network capabilities.
63. In the case of called parties, Inovar suggested that some consumers may not want the network to block any calls on their behalf; for these consumers, the network should provide an opt-out for the consumer so that automatic call blocking will not be done on their behalf. RCCI responded that this is impossible to implement in a universal network-level call blocking hierarchy, which pays no regard to end-user preferences; this also illustrates that a more holistic approach to mitigating unwanted mass calling should be undertaken.
64. Microsoft submitted that TSPs should be afforded flexibility in designing their redress mechanisms and should include an internal process for removing a blocked number once it is determined to be erroneous.
65. RCCI stated that if universal network-level call blocking is deployed, it should be done in phases in order to reduce the impact of unintended and unforeseen consequences, and to provide information as to whether future phases should be pursued.
66. TCI submitted that steps can be taken to mitigate the expected damage that will be caused by universal network-level call blocking but, once it is deployed, redress must be reserved for where it can be shown that it is not working correctly. Modifications to override universal network-level call blocking would violate the underlying assumptions upon which universal network-level call blocking is premised, and would require functions that are characteristic of opt-in call filtering systems.

Commission's analysis and determinations

67. Customers should be allowed to dispute or question inadvertently blocked calls in a simple and straightforward way. With that in mind, customer education and awareness initiatives would be beneficial since they would ensure that customers are aware that proactive measures are being taken to block certain nuisance calls.
68. The Commission is of the view that in order to address the needs and concerns of their customers, each TSP should have an internal dispute process in place to address instances of inadvertently blocked calls. An internal dispute process, via TSP customer support centres, should work well for (i) customers, since they are already used to calling these centres about problems with their service; and (ii) TSPs, since they already have measures in place to deal with customer concerns.

69. The addition of blacklists would add a level of complexity and would also raise the issue of who would be responsible for maintaining such a centralized database. Depending on how they implement their network-level call blocking, TSPs may choose to do this for their own network-level call blocking service implementation.
70. Network-level call blocking does not allow individual numbers to be unblocked (i.e. no whitelists) as this is outside of the scope of a network-level call blocking scheme. Further, the unblocking of particular types of numbers should only be done where the legitimacy of the request can be verified, to ensure that unblocking does not serve as a means for bad actors to circumvent call blocking.
71. The Commission notes that Ofcom has a dispute resolution process in place that is managed in a timely fashion to limit harm to inappropriately impacted callers. The dispute resolution process is published on the TSP's website, so that it is discoverable. It is also widely communicated within the TSP's organization, particularly where queries about blocked calls will be received, such as the customer contact teams.
72. In light of the above, the Commission **directs** that, as a condition of providing voice telecommunications services, Canadian carriers and other TSPs providing such services to establish an internal redress process that is easily available to their customers via their customer support centres, and that is able to unblock numbers, if necessary, after verifying the legitimacy of any requests to unblock certain types of numbers.

Notification measures and disclosure requirements

73. In the Notice, the Commission requested that parties to the proceeding provide detailed comments on (i) notification measures that could include such things as (a) notification to customers of the pending implementation of network-level call blocking so that they can take steps to ensure their calls are not inadvertently blocked, (b) notifications to callers that their calls have been blocked at a network level, and (c) other notification requirements; and (ii) disclosure measures that could include informing called parties that calls to them have been blocked at the network level and the information that will be provided to them via the disclosure or other notification requirements.
74. Bell Canada et al., Cogeco, Comwave, Inovar, and RCCI submitted that customers could be notified of upcoming changes by way of billing inserts, TSP webpages, and awareness campaigns.
75. Eastlink and Shaw submitted that a mandatory notification requirement should not be imposed, but acknowledged that there are some instances where notification could be appropriate. For example, if a TSP is aware of customers who are using a caller ID that would be blocked under this proposal for legitimate purposes, such as a hospital or a school, or if the service provider needs to update the method by which customers access their voice mail, it may be appropriate for that TSP to voluntarily notify such customers of the pending implementation of network-level call blocking.

Another example of where it could be appropriate is where a TSP's business and wholesale customers purchase Primary Rate Interface services or operate PBXs since these are the customers whose operations would be most directly impacted by universal call blocking at the network level.

76. On the issue of whether notification should be given to calling parties,
- Bell Canada et al., Cogeco, RCCI, and TCI recommended that no disclosure or notification measures should be implemented for calling parties. Perpetrators should not be given information that can help them modify their methods to continue their activities;
 - CNOC and Inovar proposed that, when a call is blocked, the TSP can notify the calling party that their call attempt was blocked and the reason that the network blocked their call attempt;
 - Cogeco submitted that a fast busy tone or standard network message could apply. However, no additional information should be provided since it could help bad actors; and
 - Comwave suggested that two weeks prior to the one-month trial it proposed be implemented for universal call blocking, a permissive dial-period should be implemented, which would provide automated notification to calls with non-conforming caller ID that these calls will be blocked in the future. Once the trial begins, a network intercept notification should be provided to all callers where calls are blocked notifying them of the reason for the blocking.
77. On the issue of whether notification should be given to called parties, Bell Canada et al., CNOC, Cogeco, Eastlink, RCCI, Shaw, and TCI agreed that there is no need for disclosure measures that would notify the recipient of calls with illegitimate caller ID that these calls are being blocked. In this regard, these parties submitted
- that providing a notification defeats the purpose of blocking the call;
 - that TSPs will not have any relevant call details to provide the customer; and
 - the belief that it would result in “over notifications” and could cause customer frustration and annoyance.
78. Inovar submitted that TSPs can provide customers access to the calls that were blocked through a website provided by the TSP. RCCI noted, however, that the cost of this proposal has not been assessed and it believed that it would be extremely complex and cost prohibitive to implement for a TSP.

Commission's analysis and determinations

79. The Commission recognizes that there may be instances where legitimate callers will need to reconfigure their systems, such as PBXs, or otherwise adjust their systems to ensure their calls are not inadvertently blocked. Further, the Commission considers that a notification process should be provided to allow TSPs and end-users sufficient time to make the necessary changes to be compliant and avoid having their legitimate calls blocked.
80. The Commission also considers that customers should be made aware of any new measures by way of notifications as part of monthly billing invoices (whether paper or electronic) and TSP web pages. This notification process can also be coordinated and be consistent with the mitigation mechanism addressed by the Commission earlier in this decision.
81. The Commission finds that requiring Canadian carriers and other TSPs providing voice telecommunications services to advise their customers no later than 60 days prior to the implementation of any new measure will give TSPs and end-users enough time to become aware of, and adapt to, the changes.
82. Concerning the issue of whether notification should be given, on a per-call basis, to calling parties, the Commission considers that nuisance call perpetrators should not be given this type of information as they could use it to modify their methods. With regard to notifying called parties of each blocked call, the Commission considers that notifying such parties that incoming calls have been blocked when no additional information is available, such as where the calls came from, does not appear to be of any value to customers. Further, customers may find such notifications to be more annoying than helpful.
83. In light of the above, the Commission **directs** Canadian carriers and other TSPs providing voice telecommunications services, prior to the implementation of call blocking, to (i) engage in customer education and awareness initiatives; and (ii) advise customers of the impending implementation of network-level call blocking in electronic notifications of monthly billing notices or, where applicable, by way of billing inserts and on their websites no later than **60 days** prior to the date of implementation. The awareness initiatives should include, but are not limited to, information on when the new features will come into effect, how they will affect customers, how or if they will see any changes to their services, and the benefits of the new services being provided.

Monitoring

84. In the Notice, the Commission requested that parties to the proceeding provide detailed comments on the approaches and methodologies to be used for monitoring the effectiveness of universal network-level call blocking and the effectiveness of measures to mitigate the potential impact on legitimate callers.

85. Bell Canada et al. suggested that the number of blocked calls could be tracked at the network level, but acknowledged that they currently lack the capability of implementing such a measure.
86. CNOC, Cogeco, Inovar, RCCI, and TCI submitted that the number of customer complaints could be a valid indication of the quantity of blatantly illegitimate calls not blocked at the network level. Further, Cogeco recommended that the Commission use data from the National Do Not Call List operator as a benchmark for determining the collective effectiveness of the industry's efforts in setting up a universal network-level call blocking solution.
87. Inovar submitted that records of blocked calls can be saved in order to report to customers what types of calls are actually being blocked, as well as identifying the effectiveness of this approach. RCCI noted that neither the costs associated with developing this type of records database nor the value of the extracted information has been assessed. RCCI believed that such blocked call data, if it were available, would be cost prohibitive to gather and report to individual subscribers.
88. RCCI submitted that the Commission could undertake customer satisfaction surveys as a way of monitoring the effectiveness of universal network-level call blocking.

Commission's analysis and determinations

89. The Commission has generally relied on its complaints mechanism as a way of monitoring compliance in broadcasting and telecommunications matters.
90. The Commission notes the comments made during the proceeding that the ability to track the number of blocked calls does not exist in many networks and that this capability would need to be developed.
91. The Commission recognizes that the costs of implementing network-level call blocking should be kept as low as possible. The Commission considers that, as a proxy to measuring actual blocked calls, Canadian carriers and other TSPs providing voice telecommunications services should introduce mechanisms to track the number of complaints concerning nuisance calls. Capturing this data would serve as a general indication as to whether network-level call blocking is reducing the number of nuisance calls received by customers.
92. The Commission **directs** Canadian carriers and other TSPs providing voice telecommunications services to track the number of customer complaints concerning nuisance calls they receive and be able to supply this information to the Commission, upon request.

Policy Direction

93. The Policy Direction¹⁵ states that the Commission, in exercising its powers and performing its duties under the Act, shall implement the policy objectives set out in section 7 of the Act in accordance with paragraphs 1(a), (b), and (c) of the Policy Direction.
94. The policy objectives set out in paragraphs 7(a), (b), (f), (g), (h), and (i)¹⁶ of the Act are advanced by the determinations in this decision.
95. The regulatory measures imposed by the Commission in this decision
- are efficient and proportionate to their purpose of reducing harm to Canadians from unwanted nuisance calls, given that
 - they are targeted to blocking only those calls that can efficiently and effectively be verified as having a blatantly illegitimate caller ID; and
 - they do not apply to those service providers that have implemented call filtering as set out in this decision;
 - interfere with the operation of competitive market forces to the minimum extent necessary to meet policy objectives by providing flexibility to the industry to develop and deploy protective measures that best meet the needs and circumstances of both the industry and its subscribers; and
 - are symmetrical and competitively neutral given that they apply equally to all Canadian carriers and other TSPs that provide voice telecommunications services.

Secretary General

Related documents

- *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

¹⁵ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, P.C. 2006-1534, 14 December 2006

¹⁶ The cited policy objectives of the Act 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.

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

- *Implementation of universal blocking of calls with blatantly illegitimate caller identification*, Compliance and Enforcement and Telecom Notice of Consultation CRTC 2017-405, 16 November 2017; as amended by Compliance and Enforcement and Telecom Notice of Consultation CRTC 2017-405-1, 13 June 2018
- *Empowering Canadians to protect themselves from unwanted unsolicited and illegitimate calls*, Compliance and Enforcement and Telecom Regulatory Policy CRTC 2016-442, 7 November 2016