

Implementation of a Permanent National Do Not Call List Registration

A Feasibility Study of
Key Issues, Strategic Recommendations
And an Implementation Plan

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Limitations, Restrictions and Qualifications

PossibleNOW Inc (“PossibleNOW”) has been engaged as an independent consultant by the Canadian Radio-Television and Telecommunications Commission (“CRTC” or “Commission”) to conduct a feasibility study of making the National Do Not Call List a permanent number registry based on our experience, independent research and input from various stakeholders including, but not limited to, the CRTC, Canadian telecommunications service providers (TSPs) and commercial data providers. We understand that our report is one of several factors that will be considered by the CRTC in formulating their own views on permanent number registration in Canada. The recommendations and conclusions set forth in this report are based on the following limitations, restrictions and qualifications; any changes in which could have a significant impact on PossibleNOW’s recommendations and conclusions:

- PossibleNOW has used public source information along with input from various stakeholders in preparing this report. Unless the credibility of the information was suspect, PossibleNOW has relied on this information to form the basis for its recommendations and conclusions. PossibleNOW has not independently verified the completeness and accuracy of the information.
- PossibleNOW has prepared this report based on current market, business, and financial conditions. Future conditions may vary and are beyond the scope of this report.
- PossibleNOW has used current best estimates and judgments in regards to the projected costs associated with implementing a permanent number registry.
- This report has been prepared pursuant to the terms of the agreement between the Commission and PossibleNOW. PossibleNOW is not liable to any party other than the Commission for any use or reliance on this report.
- In preparing the report, PossibleNOW has relied upon a review of the draft report dated March 9, 2012 by the Commission and as a result of this review are not aware of any errors, omissions or misrepresentations of facts which might have an impact on our recommendations or conclusions herein.

Table of Contents

Introduction	1
Critical Considerations	2
Key Findings and Recommendations	3
Hygiene Process Methodology	4
A Complex Undertaking	4
Hygiene Process Steps	6
Data Requirements	6
Data requirements of DNC Operator	7
Data requirements of TSPs	7
Data availability.....	7
Wireline Data	8
Wireless Data	10
Cost Factors.....	11
Costs of Data	11
Costs of Processing	11
Permanent Registry Implementation Framework	12
Major Assumptions Supporting the Plan	13
Technology trends and market developments in the telecommunications environment	13
Conclusion.....	14

Introduction

The National Do Not Call List (“DNCL”) is a nationwide registry that allows consumers to reduce the number of unsolicited telemarketing calls they receive. Except for noted exemptions, telemarketers are prohibited from placing unsolicited telemarketing calls to telephone numbers that are registered on the National DNCL.

From the beginning of the National DNCL, the Commission has considered the question of duration of registrations. In public proceedings, various stakeholders submitted that disconnected and reassigned numbers should be removed from the National DNCL; otherwise, new subscribers might unknowingly be denied access to telecommunications that they would prefer to receive. Stakeholders submitted that all telecommunications providers (“TSPs”) using North American Numbering Plan (“NANP”) resources should be required to submit on a monthly basis a list of numbers that had been disconnected or had completed their designated aging cycle and that all disconnected numbers should be removed from the National DNCL on a monthly basis.¹

The Commission noted the concerns that failure to remove disconnected and reassigned telecommunications numbers from the National DNCL might result in consumers who have obtained a new telecommunications number being prevented from receiving telemarketing telecommunications that they may wish to receive.²

The Commission further noted that in order to remove disconnected or reassigned telecommunications numbers from the National DNCL, it would be necessary to obtain up-to-date data on such numbers. The Commission considered that in order to obtain such information, a process would need to be established whereby all the TSPs would electronically submit the information in a standardized format, on a monthly basis. However the Commission considered that the implementation of such a process would impose costs on TSPs that could be unduly burdensome.³

In 2009, the Commission announced that telephone numbers registered on the National DNCL would remain on the list for five years rather than three years. The new registration period was automatically applied to the then 6.7 million telephone numbers already on the list in addition

¹ Telecom Decision CRTC 2007-48, *Unsolicited Telecommunications Rules framework and the National Do Not Call List*, Canadian Radio-television and Telecommunications Commission, 3 July 2007.

² *Ibid.*

³ *Ibid.*

to all new registrations.⁴ As of March 2012, the National DNCL has grown to over 10.5 million registered telephone numbers.

The purpose of this report is to identify and evaluate options with regard to the processes and procedures that would be required to ensure that disconnected and reassigned numbers are removed from the National DNCL, to address key issues, and to make recommendations regarding an implementation framework.

Critical Considerations

Any implementation path set forth must be based on a disciplined approach that takes into account several critical considerations:

Consideration #1: Balance the needs of stakeholders – The growth of the National DNCL since its launch is a testimony to its success in providing a substantial benefit to consumers. However, in implementing a plan to make the registry permanent, it is imperative to consider the needs of all stakeholders. Telemarketers must be assured that numbers are removed from the list as expediently as possible. The cost and effort to hygiene the DNCL must not be overly burdensome to TSPs. The accuracy of the DNCL must be maintained to permit the Commission to effectively enforce its use.

Consideration #2: Incorporate key lessons learned from the experiences of other countries – As Canada and the United States share the same numbering plan, the United States experience is perhaps the most relevant to the Canadian implementation of permanent number registry. In 2008, the United States Congress passed the Do-Not-Call Improvement Act of 2007 which eliminated the automatic removal of numbers from the U.S. National Do Not Call Registry.⁵

Consideration #3: Utilize regulatory objectives to provide efficiency – The Commission regulates unsolicited telecommunications pursuant to section 41 of the Telecommunications Act. In Bill C-37, An Act to amend the Telecommunications Act, the Commission was granted powers to delegate to any person any of its powers to administer databases or operational systems for the purposes of establishing a National DNCL. Consistent with its mandate under the Act, the Commission is to ensure that regulation, where required, is efficient and effective.

⁴ Telecom Regulatory Policy CRTC 2009-200, *Modifications to some Unsolicited Telecommunications Rules*, Canadian Radio-television and Telecommunications Commission, 20 April 2009

⁵ U.S. Public Law No: 110-187, 122 Stat. 633, *Do-Not-Call Improvement Act of 2007*, 110th Congress, 15 February 2008

Key Findings and Recommendations

As a result of analysis of information gathered in the course of conducting this feasibility study, we have developed the following key findings and recommendations:

- Conversion of the National DNCL from a five year registration period to a permanent number registration is an achievable objective.
- The data needed to identify the majority of wireline numbers that should be removed because they have been disconnected and reassigned exists in the commercial marketplace today, however its current licensed use is restricted to directory publishing and directory assistance. We recommend that provision of this data by TSPs be mandated.
- The data needed to identify which wireless numbers should be removed because they have been disconnected and reassigned exists within the wireless carriers, but is not currently available in the commercial marketplace today. This data has been provided for special use cases by the wireless carriers. We recommend that provision of this data by TSPs be mandated.
- Given use of the appropriate data, the process for determining which numbers should be removed from the registry is a complex algorithm. Simply removing numbers that have been disconnected will result in improper removals. Such algorithms have been developed and are commercially available.
- We recommend that permanent number registration be recognized as providing an important social benefit and therefore be mandated as a service for the public good.
- We recommend that a hygiene process to remove disconnected and reassigned telecommunications numbers from the National DNCL can be efficiently and effectively implemented.
- We recommend that the party responsible for providing the hygiene process be skilled and experienced in providing telecommunications data analysis and household turnover analysis.
- We recommend that the party responsible for implementing the hygiene process, if other than the DNCL operator, provide the hygiene process services as a subcontractor

to the DNCL operator and that any costs associated with performing the hygiene services be recoverable by the DNCL operator through the collection of Telemarketer subscription fees.

- We recommend that in order to balance the interests of all stakeholders, that the hygiene process be conducted on a monthly basis.

Hygiene Process Methodology

A Complex Undertaking

The current five year registration period provides for a simplistic methodology of removing telephone numbers from the National DNCL. Under this scenario, all that is required is for the National DNCL operator to simply remove the number from the list upon the five year anniversary of the completion of the thirty-one day grace period of the date that the consumer either placed their number on the list or refreshed their request.

The benefit of a finite period methodology to the telemarketing industry is that all numbers are periodically removed from the list unless intentional effort is made by the consumer to renew the request prior to the expiration period. This method mitigates the effect of not removing disconnected and reassigned numbers from the National DNCL. However this method places the burden on the consumer who desires to have their number remain on the list with the nuisance of re-registration. It is likely to create automatic deregistration of telecommunication numbers for many consumers resulting in undesired interruption of privacy protection.

The benefit of an infinite period methodology to the consumer is that nuisance of re-registration in order to have a number remain on the list is eliminated. If the consumer desires to have their number removed from the list, they may do so by de-registering their number. However, in the absence of a hygiene process, this method prolongs numbers on the list that have been disconnected and reassigned to a new consumer preventing telemarketers from contacting a consumer whose preference may differ from the original registrant.

Implementing a hygiene process is a complex undertaking that involves comparing the telecommunications number along with the DNC request date to separate data to determine its continued validity. This comparison requires an algorithm that must be able to efficiently process and decipher data feed streams containing names, addresses, numbers, and dates and other forms of information in addition to the telecommunications number and the DNC request date.

Early in the operation of the U.S. National Do Not Call Registry, the Federal Trade Commission (“FTC”) learned that relying on disconnect or reassignment data alone would result in many consumers’ numbers being removed mistakenly from the registry. For example, a temporary disruption in service due to a consumer’s vacation or late payment might be coded as a disconnected number. Furthermore, changes in billing plans or long distance carriers might result in a telephone number being coded as reassigned, even when the consumer had not changed telephone numbers. Thus, after extensive examination of the data issues, the FTC developed a process to purge a telephone number from the registry only when the number has been disconnected and subsequently reassigned.⁶

As described in the following paragraphs extracted from the 2008 FTC Report to Congress, an effective process must analyze the history of a phone number in the database and in the daily database updates of disconnected and newly connected numbers to identify phone numbers that have undergone a complete household turnover. The analysis starts with numbers registered as “new connects” in the database. A disconnect order alone is not sufficient to trigger an analysis because, until the number is reconnected, confirmation that the number has turned over to a new party is not possible.

For each telephone number coded as a new connect, a two-step process is followed to ensure that the telephone number belongs to a new customer. First, if the new connect is for a phone number that previously existed in the database, then the street address associated with that number is checked. If the number has been reconnected to the same address, the new connect is not considered a reassign. This process eliminates new connects that are the result of billing issues or of seasonal disconnects that are reconnected later to the same party. It also removes new connects that may be due to changes in phone service. These new connects are not considered valid reassigns.

Checking the address associated with the number also permits identification of new connects that are simply caused by a phone company account being transferred from one household member to another. Because numerous people in a household often share a common telephone number, registration does not rest with the line subscriber alone. In such a shared-number situation, the privacy rights of all are affected by unwanted telemarketing calls. Thus, the decision to register the household telephone number in the registry is a joint decision of all household members.

⁶ Do-Not-Call Improvement Act of 2007, *Report to Congress: Regarding the Accuracy of the Do Not Call Registry*, Federal Trade Commission, October 2008

Once it has been determined that the number has not been reconnected to the same address, a final check is made of the last name on the account against all prior last names historically associated with the phone number to eliminate the result of a household making a local move but keeping its phone number.

As of December 2011, the FTC continues to believe that eliminating the re-registration requirement has not decreased the accuracy of the U.S. registry, but that it has enabled consumers to maintain their right to privacy without interruption and made it possible to avoid the cost associated with educating consumers about the need to re-register.⁷

Hygiene Process Steps

As leading provider of data hygiene and household turnover analysis, we have relied on our familiarity with the U.S. hygiene process as the basis for a methodology that may be similarly applied to the Canadian DNCL. A general outline of the process efforts that are required to perform hygiene of the list include:

- Compilation of data by the TSPs
- Collection of data by the hygiene processor
- Creation of hygiene algorithm by the hygiene processor
- Collection of DNCL data from DNCL Operator
- Application of hygiene algorithm by the hygiene processor
- Provision of permitted number removal to DNCL Operator
- Removal of numbers from the list by DNCL Operator

To provide a balance to all interested parties, we recommend that the hygiene process be conducted on a monthly basis.

Data Requirements

This section addresses the nature and type of data and information that Canadian telecom carriers and others would have to create and/or provide to support such a registry and the frequency with which such data and information would need to be provided.

⁷ *Biennial Report to Congress Under the Do Not Call Registry Fee Extension Act of 2007*, Federal Trade Commission, December 2011

Data requirements of DNC Operator

The DNC Operator is the system of record source for the National DNCL. As such, we recommend that the hygiene processor, if other than the DNC Operator, must operate as a closely coordinated service with the DNC Operator.

The registry data provided by the DNC Operator will consist only of the consumer phone number and the date that the consumer registered the number, or more recent date if re-registered, on the National DNCL. The DNC Operator must develop a process to provide this data to the hygiene processor, as well as receive and apply the results of the hygiene process to the National DNCL.

Data requirements of TSPs

Based on the methodology applied in the United States for hygiene of its Do Not Call registry, the following data elements provided by the TSPs are necessary to develop an algorithm which can be applied for hygiene purposes:

Wireline

- Subscriber Phone number
- Subscriber First Name
- Subscriber Last Name
- Subscriber Address
- TSP service order activity (connect or disconnect)
- TSP service order activity date

Wireless

- Subscriber Phone number
- Subscriber First Name
- Subscriber Last Name
- Subscriber Address (Optional)
- TSP service order activity (connect or disconnect)
- TSP service order activity date

Data availability

We considered a wide range of data availability including but not limited to responder data, compiled data, and subscriber listing information. Our goal was to determine whether such data and information would need to be created or whether it is currently created in the ordinary course of business. Furthermore, we sought to identify the most efficient source of data in terms of accuracy of the data relative to the overall data costs. To that end, our search focused on locating readily available market sources of data. Our results are divided into data availability based on wireline and wireless data. As a general principle, a wireline customer's

number is published in a telephone directory, except in the case where the customer requests an unpublished number. For a wireless customer, the number is not published in a telephone directory unless the customer requests that it be published. We discovered that various sources of data are available on daily, weekly, and monthly basis. We recommend that data be collected as frequently as possible from those available sources. For sources that are not currently available and must be created, we recommend that data be provided on a monthly basis as a minimum.

Wireline Data

The majority of telecommunications numbers registered on the National DNCL are wireline numbers. Of all available sources of wireline data, we determined that subscriber listing information provides the most accurate and sufficient data. There are two services through which wireline subscriber listing information is currently made available:

- Basic listing interchange file (“BLIF”) service provides a complete set of non-confidential basic subscriber listing information for a given local exchange carrier (“LEC”) in machine-readable form; and
- Directory File Service (“DFS”) provides the same information as BLIF service, plus information regarding complex listings, such as business sub-listing information or additional listing information for a residential main line.

These services provide non-confidential subscriber listing information for the purposes of publishing directories and provisioning operator directory assistance services. This information is only available from the LEC that provides local exchange services to its customers and, thus, cannot be practically or feasibly duplicated by competitors. Accordingly, both of these services have been determined by the Commission to be classified as essential services.⁸

Basic Listing Interchange File data is available on a daily, weekly, bi-weekly, or monthly basis. It is limited however and does not include Non-Published Telephone Numbers, “Out of Book” listings, or Wireless Listings.

Directory File Service is only available on a monthly basis and is available as a Master File or as an Update File.

⁸ Telecom Decision CRTC 2008-17, *Revised regulatory framework for wholesale services and definition of essential services*, Canadian Radio-television and Telecommunications Commission, 3 March 2008.

- Master File – Directory File updated monthly to include the previous monthly update file. The Master File reflects customer listing information as of the last business day prior to the first full weekend of each month.
- Update File – The current monthly file which contains only the changes to the subscriber listing information, that is, additions, revisions and deletions resulting from the service order activity affecting the master file. During the current monthly interval, the update file reflects changes to customer listing information, as of the last business day prior to the full weekend of each month.

Currently, BLIF and DFS are only available to Local Exchange Carriers (“LECs”), Interchange Carriers, Wireless Service Providers (“WSP”), and Alternative Operator Service Providers (“ASOPs”) via licensing agreement and for restricted use purposes.

The information provided in the Directory File is:

- Name
 - Residence:
 - surname, given name and/or initials
 - designation if applicable
 - title of address (Dr.) if applicable
 - title of status (Jr.) if applicable
 - Business:
 - business name, business designation (e.g. Lawyer)
 - or surname, followed by given name and/or initials and designation if applicable
- Address (unless not included at the request of the customer)
 - address/location type (floor, building, etc.), if printed in the directory
 - address/location number (e.g. floor, suite, apartment number), if printed in the directory
 - house number / suffix – civic number or rural route number if applicable
 - street name or unusual address
 - community name (if part of the listed address)
- Telephone Number
 - listed seven digit telephone number, or seven digit telephone number with area code (NPA) where appropriate.
- Exchange Name Abbreviation
- Business/Residence/Government Indicator
- Letter of Alphabetization Indicator
- Postal Code

Wireless Data

There are approximately 3.7 million wireless telecommunication numbers currently registered on the National DNCL which represent nearly 36% of all registered numbers. This presents a challenge because, unlike wireline data, there is not a generally available source of subscriber listing information that can be used which contains the required data elements to perform hygiene. Privacy of subscriber listing information for wireless is a concern for the consumer and protection of this information is expected. Note that for wireless, address is considered optional. Wireless is considered a person contact element and turnover can be based on a name change alone. The data required for hygiene are readily available within the wireless carriers and provision of the data has been made in special use cases.

A survey by the Canadian Wireless Telecommunications Association reports that at the end of September 2011, there are over 25.5 million cell phone users in Canada.⁹ Furthermore, the wireless subscriber growth rate is approximately 1.35 million per year and is outpacing the growth of traditional wireline numbers.

The list of carriers from the report and their subscriber volume is:

Rank	Operator	Subscribers (in millions)	Ownership
1	Rogers Wireless	9.29	Rogers Communications
2	Bell Mobility	7.37	Bell Canada
3	Telus Mobility	7.21	Telus
4	SaskTel Mobility	0.57	SaskTel
5	MTS Mobility	0.49	MTS
6	Wind Mobile	0.36	Globalive
7	Videotron Cellulaire	0.25	Videotron
	Total	25.54	

⁹ CWTA, *Facts and Figures – Wireless phone subscribers in Canada 2011*, <http://cwta.ca/facts-figures/>

Cost Factors

The costs associated with the operation of the National DNCL are funded by subscription fees paid to the National DNCL operator by telemarketers. In this section we provide an estimation of additional costs related to the acquisition of data and the hygiene process covered in this report. This information is based on market data, our research and our experience with projects of similar nature and is provided only for estimation purposes. This basis is non-exhaustive and has been prepared without definitive costs submissions from TSPs or the DNCL operator.

Costs of Data

Tariff arrangements currently exist for subscriber listing information of wireline numbers and provide a reference for listing prices by LEC. Tariff pricing ranges from a low of \$0.0515 per listing for BLIF residential updates to a high of \$0.50 per listing for DFS listings. These tariffs do not permit uses other than to produce independent directories and to supply directory assistance service; however, many Canadian carriers do make data available to outside parties under negotiated agreements for non-telecom purposes under which the outside party incorporates the data into its products and services. We project that the project timeframe for the TSPs to identify, develop and test the processes to provide the data can vary from three to six months. In the case of wireline data, existing processes and data distribution channels can be utilized, thus minimizing the implementation costs for wireline TSPs. For wireless data, processes will need to be created to provide the needed data. We estimate that implementation costs across all TSPs for setting up processes to provide data could range from \$200,000 to \$400,000 for the initial setup expenses. Recurring costs for acquiring both wireline and wireless data could range from \$100,000 to \$250,000 each year thereafter.

Costs of Processing

In addition to the data costs are the costs of operating the hygiene process. These costs are incurred by the DNC operator and hygiene processor and include the costs of data storage, data security and processing along with the administrative costs of operating and managing the hygiene process. We estimate that these costs could range from \$50,000 to \$100,000 for the

initial setup expenses and could range from \$75,000 to \$150,000 per year for processing expenses.

Permanent Registry Implementation Framework

Four Critical Implementation Phases

The following framework provides a path for implementation of a Permanent National DNCL Registration project based on the Plan, Build, Test and Launch methodology. The framework timeline has been constructed over a twenty-one month period to allow for a hygiene process to be launched and in place prior to the expiration of consumer telecommunications numbers that have been placed on the list since its launch.

Planning Phase – This phase consists of tasks primarily affiliated with studies, regulatory activities, vendor selection, data collection / processing agreements and strategies necessary to support the implementation. This phase is expected to be the longest phase as it requires the involvement of many stakeholders and the passage of regulatory changes. This phase should be completed by March 2013.

Building Phase – This phase includes tasks related to the compilation, delivery, and processing of data and includes:

- Establishing a process whereby all TSPs can electronically submit up-to-date information on numbers that have been disconnected and/or reassigned in a standardized format, on a monthly basis to a National DNCL hygiene processor.
- Establishing a process whereby the National DNCL operator can electronically submit the up-to-date National DNCL with the most recent customer date in a standardized format, on a monthly basis to a National DNCL hygiene processor and electronically receive results of a list of numbers that may be removed from the National DNCL.
- Creation of a database to receive and store electronic information provided by the TSPs and the National DNCL operator and to process the data using an algorithm for determining candidate telecommunications numbers that may be removed from the National DNCL.

This phase involves participation from the TSPs, the DNCL operator, and the hygiene processor and is anticipated to be completed by August 2013.

Testing Phase – This phase encompasses end-to-end testing of readiness and user acceptance testing. Testing will be conducted in phases to account for the readiness of the TSPs. Initial pilot testing may be conducted in those regions where TSPs express a desire to participate.

Launch Phase – This phase follows testing and encompasses tasks in connection with receiving and processing TSP and DNCL operator data and implementing the hygiene process.

Major Assumptions Supporting the Plan

There are a number of major assumptions that have been made in order to carry out the described plan. These are summarized below.

Assumption #1: Full co-operation and participation of the TSP industry to provide the required data.

Although necessary wireline data exists in a format that can be utilized for hygiene purposes, the current limitations of use of the data in its present offering are limited to directory publishing and directory assistance. Wireless data carriers must provide the data. Mandating participation of the TSPs is recommended.

Assumption #2: Maximize use of existing Industry Processes.

Using existing databases and processes to the greatest extent possible will reduce costs and speed implementation. We have sought to identify existing available sources of data and used our own commercial experience in providing hygiene services and household turnover analysis.

Assumption #3: Data costs for provision of data can be recovered by the TSPs. Operating costs for performing hygiene can be fully absorbed by the DNC Operator through the established collection of subscription fees from telemarketing companies.

Assumption #4: Regulatory changes can be made in a timely manner based on the implementation framework.

Technology trends and market developments in the telecommunications environment

Over time, the Canadian telecommunications market has been transformed due to substantial changes in both technology and competition. Two forms of technology, wireless phones and Voice over Internet Protocol (“VOIP”) have developed considerably.

Wireless usage represents one of the largest shifts in technology. Today’s wireless offerings offer a wide variety of service packages at competitive pricing. As a result, many consumers have chosen to abandon the traditional wireline service in favor of a mobile wireless offering.

A 2010 survey by Statistics Canada reports that 78% of Canadian households indicated that they had a cell phone in 2010, up from 74% in 2008.¹⁰ Furthermore, in 2010 13% of households report that they used a cell phone exclusively, up from 8% in 2008 and another 3.6% reported that they were serviced exclusively by cable or voice over IP providers.¹¹

In January 2012, the Commission introduced a new policy to encourage large telephone companies to rapidly adopt Internet Protocol (IP) throughout their networks.¹²

Growth in both the wireless and VOIP industries presents further compelling evidence that the submission of TSP data for DNCL hygiene purposes should be mandated.

Conclusion

It is our opinion that a well-structured plan is achievable to enable Canada to implement permanent number registration on the National Do Not Call List in an efficient and cost effective manner. Implementation of a plan can be achieved prior to the expiration of telecommunications numbers under the existing regulations.

Action by the CRTC to implement a plan will be necessary to require the provision of data by the TSPs. While much of the data required to implement such a plan is currently created in the ordinary course of business, its availability is either restricted to limited use in the commercial marketplace or not commercially available at all.

¹⁰ *Residential Telephone Service Survey*, Statistics Canada, December 2010

¹¹ *Ibid.*

¹² Telecom Regulatory Policy CRTC 2012-24, *Network interconnection for voice service*, Canadian Radio-television and Telecommunications Commission, 19 January 2012