

# **MOBILE NUMBER PORTABILITY: MOVING WITH THE TIMES**

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## EXECUTIVE SUMMARY

Mobile number portability (MNP) is the ability to keep one's wireless (cellphone) number when changing wireless service providers (WSPs). While fixed-line telephone number portability is compulsory for major providers of basic telephone service in Canada, mobile number portability is not, despite the ever-increasing population who use this technology. Notably, Canada is one of the few industrialized countries that has not yet implemented MNP.

This paper discusses the desirability of MNP mandatory in Canada. The conclusions drawn are based on analysis of the following key areas: the history of the wireless communications industry and its associated regulatory scheme; the benefits of mandating MNP and the related obstacles to switching between service providers; and the costs of mandating MNP. Additionally, this report examines MNP from an international perspective, with a particular focus on the US experience with implementation. Based on the above, it is clear that the benefit to consumers of mandating MNP in Canada is significant and outweighs the cost to providers.

The principal advantage of implementing MNP is enhancing competition among wireless service providers, which is currently dominated by a few players. Customers wishing to "switch" from one WSP to another, or between a WSP and a fixed location service provider, face a number of obstacles in achieving that objective, including changing their telephone number. Studies have shown that consumers not only value their telephone numbers, but also that not having access to MNP is a significant factor preventing them from making a switch.<sup>1</sup> In the absence of MNP, WSPs may settle into a comfortable oligopoly. Thus, MNP would serve a pro-competitive function.

Opponents of mandatory MNP point to what they claim are significant costs of implementation. These can be grouped into three categories: (1) Start-up costs; (2)

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<sup>1</sup> Decima Research, *Report on Wireless*, July 15, 2004.

Customer transfer costs; and (3) Operations Costs, each of which is addressed in the body of this paper. The cost of implementing MNP would likely be very small under all plausible scenarios, given technology facilitating Local Number Portability (LNP) for fixed-location suppliers is already in place and MNP could use this existing infrastructure. Incremental costs to the existing databases would be small, arising mainly from the need to increase storage and possibly upgrade processing capacity.

Making MNP mandatory in Canada would have a positive impact on competition among WSPs, and probably on competition for fixed-location service, as well. While the benefits are not likely to be large in the very short run, they may be quite significant in the longer run: in the absence of MNP, WSPs may settle down to a comfortable oligopoly. In such a situation, MNP would become important as a pro-competitive measure. On the other hand, costs of MNP likely would be very small under all plausible scenarios, given that LNP for fixed-location suppliers is already in place and MNP can “ride” on its infrastructure.

Implementation of MNP recently has been promised by the wireless industry on a less-than-aggressive schedule. Given the minimal challenges in introduction of this consumer benefit, it is in the interest of Canadians that the CRTC set an aggressive implementation schedule for MNP so that Canadians can begin moving with the times.

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# INTRODUCTION

## THE PROBLEM

Every telephone line in North America, whether physical or virtual, is assigned a unique ten-digit telephone number.<sup>2</sup> This number can be dialed from anywhere in the world, with reasonable assurance that the call will be routed to the proper destination.

Users rely, sometimes quite heavily, on their telephone number, whether fixed or mobile, as an identifier. Residential users inform friends and family, who in turn make note of it, and may even commit frequently dialed numbers to heart. Others program phone numbers into auto-dialers. Businesses are also interested in residential customers' telephone numbers; for example, doctors and dentists access this information to schedule follow-up appointments. Sometimes the numbers serve in emergencies; for example, schools may need this information to communicate about children.

Telephone numbers are also important as identifiers for businesses. They are an integral part of letterheads, advertising, and promotional materials. For certain small businesses, for example plumbers or electricians, mobile telephones may be the primary means of contact with customers. Customers record the telephone numbers of favourite suppliers and rely on these.

For both residences and businesses, having to change telephone number is inconvenient, disruptive, and potentially costly. In turn, this discourages customers from switching to a different mobile service provider, and hampers competition. Competition would be significantly enhanced if customers could keep their telephone numbers when they change from one service provider to another. Callers would

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<sup>2</sup> Customers in other countries are identified by variable-length country and city codes and telephone numbers.

continue to use the original number, and the customer would not have to notify them of any change. Not having to incur the costs and inconvenience of taking on a new number would greatly decrease the barriers to changing carriers.

## **MOBILE NUMBER PORTABILITY**

The ability to keep one's telephone number, when changing from one mobile service provider to another, is called mobile number portability (MNP). It is a subset of service provider portability. Other forms of service provider number portability include keeping a number when transferring between two fixed-location service providers, commonly known as local number portability (LNP), and porting a number between a fixed-location and a mobile service provider, which currently has no special name, perhaps because it is not widely available.<sup>3</sup>

There are other forms of number portability. Geographic number portability occurs when a fixed-location customer stays with the same service provider, but changes the location at which it takes service. If the change is within an exchange, as defined by the telephone company, the customer has usually been able to keep the same telephone number. Now, those service providers that have implemented LNP can, with little effort, use the same technology to provide geographic number portability to customers in an extended local area, e.g. within the greater Toronto area.<sup>4</sup>

A third form of number portability is service portability, which occurs when a customer stays with the same supplier at the same location, but changes the type of service. At one time, certain services were only available at certain switching centers (e.g. ISDN), and normally changing to such a service could require a corresponding

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<sup>3</sup> Fixed-location service can be provided by both wireless and wireline technologies. The key distinction is between mobile and fixed locations, rather than the technology used in provisioning service.

<sup>4</sup> With new technologies for implementing voice calls, e.g. VOIP, and marginal per-minute costs that are virtually insensitive to distance, the concept of a "local" calling area is losing its importance and may soon disappear.

change of number. Currently, however, the trend is for a service provider to assign the same telephone number, regardless of the service involved, so that service portability is of lesser importance.

In what follows, we concentrate on MNP. MNP has significant public policy aspects, given its impact on competition in mobile service. We also address transfers between fixed and mobile services, since they raise the same public policy concerns. By contrast, geographic and service portability are straightforward commercial matters: they will be offered by suppliers if the revenues that can be generated directly and indirectly exceed the costs. We do not address these further in this paper.

## **MOBILE TELEPHONY IN CANADA**

Mobile telephony in Canada is significant, and is growing quickly. Policy changes in this area will effect many Canadians.

There were 13.6 million subscribers to mobile service in Canada in the third quarter of 2004, or 43 subscribers per 100 inhabitants. These subscribers generated 9.6 billion local minutes and 1.1 billion long distance minutes in the quarter yielding total revenues of \$2.2 billion for the quarter.<sup>5</sup> For the entire year 2003, wireless revenues were \$8.2 billion, an increase of 7.9% over 2002. Revenues have been growing quickly, from \$4.6 billion in 1998 to \$7.5 billion in 2002, for a compounded annual growth rate of 13.2%.

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<sup>5</sup> Statistics Canada, *Quarterly Telecommunications Statistics*, Vol. 28, No. 1 (Ottawa: Statistics Canada, September 2004). See also, MacGregor, Alison, "Two-thirds of Canadians have gone Wireless: Study", *Ottawa Citizen*, November 23, 2004 at C16. A survey conducted by Ericsson Canada Inc. in August of 2004 (sample size 2000, from all ten provinces) found that 63% of Canadians between the ages of 15 and 69 had access to cell phones, an increase from 56% the previous year. This includes people who had access to cell phones owned by others.

There have long been four major competing mobile service providers (also known as wireless service providers, or WSPs) in Canada.<sup>6</sup> Until 1999, these were Rogers, Microcell, Clearnet, and the Stentor Alliance of incumbent telephone companies. In 1999, the Stentor Alliance was dissolved, with the two western-most companies under the TELUS name, and the remaining companies under the Bell Alliance. TELUS took over Clearnet, maintaining the number of competitors at four. In November 2004, however, Rogers acquired Microcell, reducing the number of competitors to three.

Historic market share numbers are as follows:<sup>7</sup>

	Market share (%)									
	In terms of subscribers					In terms of revenues				
	2000	2001	2002	2003	2000	2001	2002	2003	2004 Q3	
Bell	36	36	37	38	31	31	33	34	37	
Telus	24	24	25	30	30	30	29	30	26	
Microcell	10	11	10	9	8	9	8	9	9	
Rogers	29	28	28	27	30	29	30	28	28	

An important indicator is a service provider's *churn rate*, i.e. the percentage of existing customers who give up service with that provider in any given period of time.

<sup>6</sup> There is a number of minor mobile service providers, specializing in data or paging services, or providing coverage in rural areas and a few smaller towns. There are also a number of resellers.

<sup>7</sup> Data for 2000 to 2003 from CRTC, *Report to Governor-In-Council, Status of Competition in Canadian Telecommunications Markets* (Ottawa: CRTC, November 2004) [**CRTC Report to Governor-In Council**]. Data for 2004 available on CWTA website, *Facts and Figures* (online: [http://www.cwta.ca/CWTASite/english/facts\\_figures\\_downloads/SubscribersStats\\_2000-2004.pdf](http://www.cwta.ca/CWTASite/english/facts_figures_downloads/SubscribersStats_2000-2004.pdf) at page 5).

Historic churn rates are as follows:<sup>8</sup>

	Average Monthly Churn rate (%)					
	1998	1999	2000	2001	2002	2003
Bell	1.4	1.7	1.5	1.5	1.6	1.4
Telus	1.3	1.6	2.0	2.0	1.8	1.5
Microcell	2.1	2.1	2.2	2.6	3.4	3.1
Rogers	1.9	1.9	2.4	2.2	2.0	2.1

As can be seen, market shares, whether measured in terms of subscribers or of revenues, have been quite stable. At the same time, churn rates have been very low. All this suggests that competition in the mobile market in Canada is not as intense as it is in other countries. In turn, this is due to a number of factors.

According to the CRTC:

Without number portability and platform compatibility between service providers, and with the continued preponderance of longer-term post-paid contracts, these [churn] rates are very low.<sup>9</sup>

It is also noteworthy that Canadian penetration rates (i.e. the percentage of Canadians who have a cellular phone) are below those in many other countries.<sup>10</sup> Thus, in the spring of 2003, Italy had a penetration rate of 70%,<sup>11</sup> and in the summer of 2003, Singapore had a penetration rate of over 80%.<sup>12</sup> A penetration rate is the result of many factors, including the availability of the fixed line service. However, generally more intense competition leads to lower prices, increased demand, and

<sup>8</sup> CRTC Report to Governor-In Council, *supra* note 6.

<sup>9</sup> *Ibid.* at 64.

<sup>10</sup> Penetration rates must be distinguished from teledensities. A *penetration rate* is the percentage of a population who has a cellular telephone, while *teledensity* is the ratio of cellular telephones to people. In cases where people have more than one cellular telephone per person, the teledensity will be greater than the penetration rate.

<sup>11</sup> Sylvers, Eric. "In Italy, a 'Love to Talk' Feeds Cell Phone Bonanza", *International Herald Tribune*, April 28, 2003. The corresponding *teledensity* was 93%.

<sup>12</sup> Tan, Angela. "Mobile Penetration Rate Inches up in Singapore", *IT AsiaOne*, September 9, 2003. By comparison, fixed line penetration rate was 46%.

higher penetration rates. Indeed, Hong Kong, with the highest penetration rate of any country, at 83%, has six mobile service providers and intense price competition.<sup>13</sup>

Microcell was the only WSP in Canada under an obligation to offer mobile number portability (MNP) to its customers, as discussed below.<sup>14</sup> Since it had no other WSP to port numbers from, or to, effectively there has never been MNP in Canada.

This leads to the question whether MNP should be made mandatory for all WSPs in Canada, in order to stimulate competition in this area.

## THE REGULATORY SITUATION

Mobile telephone service was originally offered on a duopoly basis, starting in mid-1984. Each incumbent telephone carrier offered mobile service in its operating territory, usually through a separate company. As well, Rogers Cantel was licensed to offer service nation-wide. In 1992, two additional WSPs, Clearnet and Microcell, were licensed on a national basis.<sup>15</sup> Thus, there was some degree of competition in this market from the start, and the level of competition grew in the early 1990s.

Starting in October 1984, the CRTC exempted Cantel and any arms' length incumbent telephone company affiliate from filing and approval of tariffs.<sup>16</sup> In 1994, this forbearance from tariffs was extended to Clearnet and Microcell; the only requirements retained by the CRTC were that WSPs provide for customer privacy and protect confidential customer information.<sup>17</sup> Finally, in 1998, the CRTC extended

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<sup>13</sup> Tran, Anthony. "Hold the Phone: HK Leads in Mobile Use", *The Standard, Greater China's Business Newspaper*, August 7, 2004. The corresponding teledensity is 105%.

<sup>14</sup> Microcell was taken over by Rogers Wireless at the end of 2004. At the time of writing, it is not clear what Rogers' plans are for what is now its Microcell division.

<sup>15</sup> Since then, Clearnet has been acquired by TELUS, itself a merger of two incumbent telephone companies, and Microcell has been acquired by Rogers, the successor to Cantel. However, both TELUS and Bell Mobility now operate nationally, as does Rogers, with the net result that the number of competitors in any market has increased from two to three.

<sup>16</sup> *Cellular Radio Service*, Telecom Public Notice CRTC 1984-55 (25 October 1984).

<sup>17</sup> *Regulation of Wireless Services*, Telecom Decision CRTC 94-15 (12 August 1994).

forbearance to mobile services no matter how provided.<sup>18</sup> In doing so, the CRTC stated that the cellular market was sufficiently competitive to protect the interests of users and also:

that the mobile voice wireless services market has grown considerably during the past 10 years, and that it is dynamic and competitive, and becoming more competitive as new competing services such as PCS and enhanced specialized mobile radio are being rolled out [...] [Furthermore] there is significant rivalry among competitors as demonstrated by media advertising campaigns and price rivalry, and that consumers are aware of alternate wireless service providers.<sup>19</sup>

The CRTC has never mandated number portability among WSPs. Indeed, by attaching conditions to access key databases, as discussed below, the CRTC may have hindered MNP. This is in sharp contrast to the situation for fixed-location service providers. Local number portability (LNP) has been compulsory for incumbent local exchange carriers (ILECs) since 1997, as part of a set of obligations designed to encourage the growth of competition in the local telephony market.<sup>20</sup>

The CRTC created a class of Competitive Local Exchange Carriers (CLECs) in 1997. A non-incumbent service provider could choose whether or not to become a CLEC. If it did so choose, it obtained certain privileges, such as favourable interconnection arrangements,<sup>21</sup> subsidies in return for providing certain basic local services, and access to the databases that enable local number portability. In return, CLECs had to undertake many of the obligations of an ILEC, including providing equal access to

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<sup>18</sup> *NBTel Inc. – Forbearance From Regulating Cellular and Personal Communication Services*, Telecom Decision CRTC 98-18 (2 October 1998).

<sup>19</sup> *Ibid.* at para 35.

<sup>20</sup> Other obligations include (1) equal access to alternative long distance providers (no need to dial extra digits) (2) peer-to-peer interconnection (3) provision of unbundled loops and co-location of facilities in central offices (4) emergency 9-1-1 service (5) message relay service to help the hearing impaired use the telephone system (6) privacy protection and confidentiality of customer information. See *Local Competition*, Telecom Decision CRTC 97-8 (1 May 1997). The fixed-location local telephony market has been open to competition in principle since 1994.

<sup>21</sup> These include peer-to-peer interconnection with ILECs, access to essential facilities such as local loops, and transiting traffic over ILEC local networks.

alternative long distance providers and reciprocal interconnection arrangements and access to facilities.<sup>22</sup>

In Order 99-5, the CRTC specifically found that access to the number portability database was a privilege, to be available only to a service provider that undertook the obligations of a LEC,<sup>23</sup> and hence that it would be inappropriate to allow this database to be used to port numbers between a LEC and a non-LEC, or between two non-LECs:<sup>24</sup>

The Commission found that the obligations imposed upon LECs are appropriate in light of the privileges that are in turn accorded to these service providers. The Commission found that the balance thus achieved would best promote efficient and fair competition in the local telecommunications service market. The Commission considers that extending the privilege of access to the [number portability database] to non-LECs to provide, among other things, portability between LECs and non-LECs, in the absence of the corresponding obligations of a LEC would alter the terms of the framework established for local competition in Decision 97-8 in a manner contrary to the public interest.<sup>25</sup>

It has always been open to any service provider to become a CLEC, upon satisfying the accompanying obligations. WSPs were generally reluctant to do so, because one of the requirements was provision of “equal access” to allow their customers to select a different service provider as their long distance carrier of choice, i.e. calls would be directly routed to that carrier without the need for the customer to dial extra digits (“dial-around”). The WSPs believed that if they were to implement such equal access, they would lose the very lucrative long distance traffic originated by their subscribers. Microcell subsequently requested the CRTC to make mobile number portability

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<sup>22</sup> *Ibid.* at para 281-293. CLECs were not obliged to offer unbundled loops or co-location, unlike ILECs. The CRTC refused to oblige WSPs to become CLECs because it found that mobile telephony was not a reasonable substitute for fixed-location telephony.

<sup>23</sup> The expression Local Exchange Carrier or LEC includes both CLECs and ILECs.

<sup>24</sup> Telecom Order CRTC 99-5 (8 January 1999).

<sup>25</sup> *Ibid.* at para 9.

mandatory for WSPs, whether they became CLECs or not. In Decision 99-12, the CRTC refused, for the same reasons as in Order 99-5.<sup>26</sup>

While Microcell went ahead unilaterally and became a CLEC in the fall of 2000, no other WSP did. With the acquisition of Microcell by Rogers at the end of 2004, it is possible that no WSP will voluntarily be a CLEC in future, and hence that there will be no MNP.

## THE ISSUE

Should the government, through the CRTC or otherwise, make mobile number portability mandatory?

Internationally, almost all developed countries have made MNP compulsory.

Singapore was the first in 1997, followed by the United Kingdom in 1998, Hong Kong and the Netherlands in 1999, Spain, Sweden and Switzerland in 2000, Australia, Denmark, Italy and Norway in 2001, Belgium and Germany in 2002, and France and the United States in 2003.<sup>27</sup> Other European countries have followed: the European Union has made MNP mandatory as of July 2003.<sup>28</sup> Canada is one of the few industrialized countries not to have followed suit.<sup>29</sup>

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<sup>26</sup> *Microcell – Application for Mandated Wireless Number Portability*, Telecom decision CRTC 99-12 (15 September 1999). Incumbent WSPs have always seen number portability as a threat to profitability, rather than as a desirable privilege. It is no surprise that it was Microcell, a new entrant, who pushed for MNP.

<sup>27</sup> INTUG, *Mobile Number Portability*, (online: <http://www.intug.net/mnp/>).

<sup>28</sup> EC Directive 2002/22/EC on Universal Service and Users' Rights, Article 30 (online: [http://europa.eu.int/information\\_society/topics/telecoms/regulatory/new\\_rf/documents/l\\_10820020424en00510077.pdf](http://europa.eu.int/information_society/topics/telecoms/regulatory/new_rf/documents/l_10820020424en00510077.pdf)).

<sup>29</sup> For the conventional wisdom, see INTUG, *Numbers & Numbering*, INTUG May, 2001, (online: <http://www.intug.net/views/numbers.html>), at 6: "INTUG strongly encourages governments and NRAs to recognize that Mobile Number Portability (MNP) is an essential part of the competitive framework and should be made legally binding on all operators and service providers. INTUG believes that the mobile telecommunications market cannot be considered competitive until users have the right to change operators at no cost and without inconvenience. Mobile network operators and service providers must compete on price, quality and service offerings, rather than by trying to lock users into their networks".

In its 3-Year Work Plan, issued in April 2004, the CRTC stated its intention to revisit the question of MNP, with a proceeding shown in the Plan, taking place in the 2005-2006 time period. In his budget on 23 February 2005, Ralph Goodale, the Minister of Finance, urged the CRTC to make its consideration of MNP a priority.

When deciding whether or not to exercise such authority to order mandatory MNP, the CRTC should look to the impacts of such an order, balancing the costs and benefits. We now turn to these costs and benefits.

## **BENEFITS OF MANDATING MOBILE NUMBER PORTABILITY**

The principal benefit from implementing MNP is enhancing competition in telecommunications. It is part of Canadian telecommunications policy

to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective.<sup>30</sup>

As telecommunications markets become fully competitive, market forces will protect consumer interests and economic regulation can be phased out.<sup>31</sup>

Implementation of MNP will overcome obstacles to switching from one wireless service provider to another, and in consequence is expected to enhance competition in the mobile telephony market. This in turn will benefit all customers, consumers and businesses alike through greater efficiency and innovation, lower prices and the introduction of more new services and functionalities. As the Federal

Communications Commission stated:

Removing barriers, such as the requirement of changing telephone numbers when changing providers, will likely stimulate the development of new services and technologies and create incentives for carriers to lower prices and costs.<sup>32</sup>

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<sup>30</sup> *Telecommunications Act*, 1993, c.38, s. 7(f).

<sup>31</sup> Technical regulation (e.g. interconnection standards) and social regulation (e.g. privacy) may have to continue indefinitely.

<sup>32</sup> Federal Communications Commission, Telephone Number Portability (CC Docket No. 95-116), *First Report and Order and Further Notice of Proposed Rulemaking* (June 27, 1996) at 158.

Competition among WSPs offers choice to customers, who can shop for lower prices, more appropriate payment plans, or a better level of service. In turn, this puts pressure on WSPs to improve their services. Number portability is a key enabler of competition, and hence of competition's benefits.<sup>33</sup>

Number portability between WSPs and fixed-location local service suppliers can also enhance competition in the basic local services market. Despite this market having been opened to competition in 1997, by 2003 new entrants only had a market share of 6% on average.<sup>34</sup> In view of the slow pace at which local competition is evolving, some commentators have pinned their hopes on entry by players using different technologies or approaches.<sup>35</sup> Easy switching to mobile telephony may be one of the missing factors in the development of widespread local competition.

## **OBSTACLES TO SWITCHING BETWEEN SERVICE PROVIDERS**

Customers wishing to “switch” service, from one WSP to another, or between a WSP and a fixed location service provider, face a number of obstacles. These include

1. Search costs to identify a preferred set of prices, level of service, and payment options;
2. Purchase of a new telephone or adaptor card, compatible with the network of the new WSP<sup>36</sup>;

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<sup>33</sup> Increased competition can have these benefits even in the absence of customers switching providers. Put differently, a low churn rate is not necessarily a sign of the absence of strong competitive pressures. Indeed, if WSPs are striving hard to keep customers happy, because of the threat of losing customers to competitors, it is possible that customers may have little desire to change suppliers. However, it is very unlikely. Generally, a low churn rate indicates a low intensity of competition.

<sup>34</sup> *CRTC Report to Governor-In Council*, *supra* note 6 at 36.

<sup>35</sup> For example, Bell Canada and other incumbents have argued that the local wire-line voice access business is in the decline stage of its life cycle and that shifts towards other access technologies would have a significant impact on the state of competition. See *Call-Net Part VII Application – Promotion of local residential competition*, Telecom Decision CRTC 2004-4 (27 January 2004) at para 18.

<sup>36</sup> In Canada, Rogers and Microcell (now taken over by Rogers) use GSM technology, while Bell and TELUS use CDMA technology.

3. Termination fees if the customer has a contract with the WSP for a fixed term<sup>37</sup>;
4. Change of telephone number.

In this paper, we focus on the fourth obstacle, change of telephone number, because it is generally the easiest one to remove. However, it must be kept in mind that number portability is not a panacea. Rather, it is just one measure, albeit an important one, to make switching easier.

Without number portability, a customer who switches providers has to incur significant inconvenience and cost. A business customer has to print new stationery and calling cards. Vehicles may have to be repainted, packaging updated, and advertising modified. More importantly, existing and potential customers of the business must be notified. In some cases, where significant publicity efforts have been made in the past, this may be quite onerous. Some customers will not be reached, hence may not be able to contact the business, and as a result may seek out and do business with others.<sup>38</sup> Both the business and its customers may have to reprogram speed and auto-dialers, and update internal directories.

Residential customers, in the absence of number portability, must also notify family and friends, who may suffer the inconvenience of learning the new number. Additionally, providers of services and goods, such as doctors, dentists, school authorities, insurers, banks, credit card issuers, landlords and social workers may have to be informed, if the telephone being switched has been issued as a contact number.

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<sup>37</sup> Customers are often induced to enter into long-term contracts in return for free or heavily discounted handsets. However, termination fees can amount to the remainder of payments that would otherwise be due if the contract ran its course, and this can be quite onerous.

<sup>38</sup> The lost sales are a private cost to the business and thus a barrier to switching. From the point of view of society as a whole, these sales merely accrue to other businesses and therefore don't result in a net loss to the market. However, customers who are forced to find new suppliers do incur search costs.

Availability of MNP will overcome these obstacles, and is expected to enhance competition in the mobile telephony market, with the attendant benefits to consumers.

## THE VALUE OF MNP

Some commentators in the United States have argued that number portability is less important for mobile than for fixed-location customers. They point out that substantial competition already exists in the mobile market. Furthermore, according to them, mobile customers do not value their numbers to a great extent, because they do not publish their numbers, nor do they make them available through directory assistance. They also change their numbers more frequently for a variety of reasons.<sup>39</sup>

However, studies have shown that customers do indeed value their telephone numbers, and that the availability of mobile number portability increases the probability of switching to another WSP.<sup>40</sup> For example, a British study found that, in 1997, 53% per cent of residential subscribers said they would be willing to switch WSPs without number portability, but that this percentage increased to 70% in the presence of MNP. Corresponding percentages for small and medium businesses were 63% without MNP and 79% with MNP.<sup>41</sup> For large businesses, the study categorized respondents according to the size of price discount needed to persuade them to switch WSP. Thus, in the absence of MNP, only 9% of respondents would switch for a price saving of 9% or less. In the presence of MNP, this increases to 19% of respondents. At the other extreme, without MNP, 28% of respondents would

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<sup>39</sup> Federal Communications Commission, Telephone Number Portability (CC Docket No. 95-116), *First report and Order and Further Notice of Proposed Rulemaking* (June 27, 1996) at 146.

<sup>40</sup> Some customers are willing to pay a premium for “vanity” numbers that have special significance or are memorable in some way.

<sup>41</sup> OVUM Ltd., *Economic Evaluation of Number Portability in the U.K. Mobile Telephony Market* (1997), at Figure 4.13 (study commissioned by OFTEL, (online: [http://www.ofcom.org.uk/static/archive/oftel/ind\\_info/numbering/ovum1.htm](http://www.ofcom.org.uk/static/archive/oftel/ind_info/numbering/ovum1.htm))). In OVUM's opinion, the percentages actually switching were likely to be about one tenth of those expressing a willingness to switch.

require a price saving of at least 25%. With MNP, this decreases to 23% of respondents.<sup>42</sup>

Similarly, in the United States, a 1994 Gallup study conducted for MCI Telecommunications Corporation found that just under 75% of respondents indicated that the retention of their phone number when changing mobile service providers would be important to them.<sup>43</sup> The majority of those surveyed indicated that they would likely not switch providers even with a price reduction of between 10 and 20%, if this change implied a loss of number. With regards to business customers, the importance of retaining phone numbers when switching WSP was, as expected, found to be an even more important consideration. 90% of surveyed business customers indicated that they would be unlikely to change providers if this meant a change in phone number. With a price reduction offer of 20%, only 24% of those surveyed indicated a likelihood to switch providers without service provider number portability.

WSPs in Canada have questioned the value of MNP to mobile customers, and have expressed an opinion that there is no great demand for portability. For example, recently, Lawson Hunter, Executive Vice President at BCE, commented, “[D]o consumers really want this as an option, and we’ll have to test that a bit because there are, as you know, cost implications of doing this and it can’t be unilateral.”<sup>44</sup> Michael Neuman, then President of Bell Mobility, was quoted as saying that MNP would have to wait until at least seven out of ten people have a wireless phone.<sup>45</sup>

In Canada, a 1998 study found that over seven out of ten respondents believe their mobile phone number to be important to them with 54% of respondents declaring their mobile number to be *very* important to them.<sup>46</sup> 34% of respondents indicated a

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<sup>42</sup> *Ibid.* at Figure 4.25.

<sup>43</sup> MCI Telecommunications Corporation Comments in the Matter of Telephone Number Portability Policy, Attachment A, CC Docket No. 95-116 (12 September, 1995). The study surveyed both subscribers and non-subscribers to mobile services, and this may have introduced bias into the results.

<sup>44</sup> Decima Research, Report on Wireless, March 8, 2005.

<sup>45</sup> Ebner, Dave. “Portable Numbers Not Seen as Imminent”, *Globe and Mail*, April 15, 2004, B4.

<sup>46</sup> Descarie & Complices, *Perceptions and Attitudes of Consumers Towards Local Number Portability*, Commissioned by Microcell Telecommunications Inc. (March 1998) at 22.

willingness to change providers if allowed to keep their mobile numbers.<sup>47</sup> Unfortunately, no data is provided to contrast this result with the number of customers willing to change providers without number portability. Notably, interest in changing service providers was strongest among (1) customers who had been with the same provider, and hence held the same number, for an extended period of time and (2) customers who use their mobile phones for more than 300 minutes per month. Interest in porting telephone numbers was also high among respondents indicating a desire to adopt their wireless service as their primary phone service.

Anecdotal evidence as to the importance of MNP in Canada continues. One letter writer to the newspaper complained that no sooner had Bell Mobility finished solving serious problems caused by implementation of a new billing system than it imposed huge percentage fee hikes on services such as call display and voice messages. The letter stated:

I would gladly leave them, but for the fact that one cannot take one's cellphone number with them to a competitor, as in the U.S.<sup>48</sup>

More recently, a survey by Solutions Research Group suggests 79% of wireless users support MNP.<sup>49</sup> According to Kaan Yigit, president of Solutions Research:

The inability to keep the same number is a significant barrier to switching service providers for many Canadians, even if they are dissatisfied with their current services, contracts or plans.<sup>50</sup>

This is consistent with the results of a Decima Research survey of 2,000 Canadians in June 2004 that revealed that 30% of cell phone users believe a lack of WNP is a big factor in preventing them from switching to another cell phone company.<sup>51</sup>

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<sup>47</sup> *Ibid.* at 24.

<sup>48</sup> "Bell Mobility Encomium A Bit Premature, Readers Relate", *Globe & Mail*, January 6, 2005 at B2.

<sup>49</sup> Solutions Research Group, "Support for Wireless Number Portability is Widespread", (online: [http://www.srgnet.com/pdf/Support\\_for\\_WNP\\_Release\\_March02\\_05.pdf](http://www.srgnet.com/pdf/Support_for_WNP_Release_March02_05.pdf)). Sample size was 1,000 Canadians, including 564 wireless subscribers. The survey was carried out in late February 2005.

<sup>50</sup> As quoted in the National Post, March 3, 2005 at p. FP5. (Available on Solutions Research Press Release online: [http://www.srgnet.com/pdf/Support\\_for\\_WNP\\_Release\\_March02\\_05.pdf](http://www.srgnet.com/pdf/Support_for_WNP_Release_March02_05.pdf)).

<sup>51</sup> Decima Research, *Report on Wireless*, July 15, 2004.

## OTHER COUNTRIES' EXPERIENCE WITH MNP

The vast majority of developed countries have either adopted MNP or are in the process of doing so, as described below. Information from these countries is revealing.

In Hong Kong, nearly 30% of mobile users ported their numbers in the year after the introduction of MNP in 1999.<sup>52</sup> By contrast, in the United Kingdom, 1.5% of mobile users ported their number during the first year of MNP, and in the Netherlands, the corresponding number was 0.5%. A large part of the explanation for the difference lies in the time it takes to port a number from the old WSP to the new one. In Hong Kong it took three days, while in the U.K. up to 25 days was required.<sup>53</sup>

Other factors leading to a low transfer rate in the U.K., even with MNP, were a £30 charge to transfer an existing number. As well, the U.K. regulator, Oftel, found that four out of five customers were getting incorrect advice from operators a year after the introduction of MNP.

In the U.S., MNP was ordered by the Federal Communications Commission in 1996, originally to take effect at the end of 1998.<sup>54</sup> However, implementation was delayed and was staged, with the 100 largest metropolitan areas offering MNP by November 2003 and other areas six months later. As a result, there is slightly less than a full year's experience available from the U.S.

Early forecasts had predicted a very strong impact for MNP. For example, in a 2002 survey by In-Stat/MD of 1,050 mobile business subscribers, 52% of respondents said that MNP would make them more likely to switch providers. While only 6% of

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<sup>52</sup> Hyland, Anne. "Figures Don't Look Good from Overseas", *Financial Review* (Australia), September 19, 2001.

<sup>53</sup> *Ibid.* The time interval in the U.K. was later reduced to under five days. When the United States introduced MNP in November 2003, it specified a time interval of 2.5 hours.

<sup>54</sup> Federal Communications Commission, Telephone Number Portability (CC Docket No. 95-116), *First report and Order and Further Notice of Proposed Rulemaking* (June 27, 1996). The 1996 Telecommunications Act mandated number portability for local exchange carriers only, see U.S.C. 251(b), and the WSPs argued that they were not LECs. However, the FCC found that it was in the public interest to order mandatory MNP, and that it had the necessary authority to order MNP under 47 U.S.C. 151, 152, 154, and 332.

respondents said they were likely to switch providers in the next 12 months, 37% said they might, and only 51% said they had no plans to switch.<sup>55</sup>

A 2003 study by The Management Network Group had even more dramatic predictions. Based on survey results, it found that 6% of wireless phone users would switch carriers within the first 24 hours of the FCC-mandated introduction of MNP. As well, 27% would churn “as soon as they receive a better offer” and more than 50% of WSP customers who had experienced service quality problems in the past year would switch carriers. Finally, 16% of survey respondents said they would likely port their home wireline number to a wireless carrier once wireline-to-wireless porting took effect.<sup>56</sup>

The reality was much more subdued: churn rates hardly changed at all. Harris Interactive surveyed wireless users in September 2004 and found that just 14% had switched to a different wireless service provider in the last 12 months. Another 35% had renewed an existing arrangement with their current wireless service provider, 8% had signed up for the first time with a wireless service provider, and 43% reported no change. By contrast, in an Ipsos-Reid survey a year before, 27% of respondents had said that it was “somewhat”, “very”, or “extremely likely” that they would switch providers in the coming year.<sup>57</sup>

Looking forward, 13% of respondents said that they would “definitely” or “probably” leave their WSP in the coming year, which suggests no significant change in the churn rate. However, another 23% of respondents said that the “might or might not” switch, raising the possibility that churn rates might go up in the coming year.

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<sup>55</sup> In-Stat/MDR, Market Alert: “WLNP Threatens to Significantly Impact Wireless Churn Rates”, August 27, 2002, (online: <http://www.instat.com/newmk.asp?ID=312>).

<sup>56</sup> Glenn Bischoff, “Study: Number portability will trigger huge migration”, *Wireless Review*, June 19 2003 (online: <http://wirelessreview.com/microsites/newsarticle.asp?mode=print&newsarticleid=268651>).

<sup>57</sup> *eMarketer*, November 9, 2004, (online: <http://www.emarketer.com/Article.aspx?1003128>). The survey was based on a sample of 836 subscribers, aged 18+.

Those respondents who had left their wireless service provider were asked for the primary reason. They answered:

- Better price for monthly service plan (44%)
- Improved reliability, i.e. fewer disconnected or blocked calls (22%)
- Promotion or sale offered by new provider (12%)
- Better customer service (6%)
- Previous provider did not offer phone model desired (4%)
- Other (13%)

The U.S. experience with the introduction of MNP was succinctly summarized by Steve Largent, president and chief executive of the Cellular Telecommunications & Internet Association (CTIA), the wireless industry's main trade group:

[I]t was much ado about nothing. The overall churn rate didn't increase or decrease compared to the previous three years. [...] The only thing predictable [about the wireless industry] is that it is unpredictable.<sup>58</sup>

While the advent of MNP did not increase the churn rate in the U.S. in the first 11 months of implementation, this must be placed in context. In particular, the mobility services market in the U.S. was already quite competitive; indeed, there was strong price and promotions rivalry, and the level of churn was already quite high. In retrospect, it was perhaps unrealistic to think that the advent of MNP would have a large impact on such a situation.

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<sup>58</sup> Duryee, Tricia. "Largent Warns Against Treating Wireless as just Another Utility", Seattle Times, October 13, 2004. (online: [http://seattletimes.nwsourc.com/html/business/technology/2002061351\\_largentweb13.html](http://seattletimes.nwsourc.com/html/business/technology/2002061351_largentweb13.html)).

## THE CURRENT STATE OF MOBILE SERVICES COMPETITION IN CANADA

Canadian WSPs have perhaps been less keenly competitive than in some other countries. The market has been dominated by four carriers, two of whom are affiliated with fixed-location providers, or LECs. A third, Rogers, is affiliated with the country's largest cable operator, which is expected to massively enter the local telephony market in 2005. That left the smallest of the four, Microcell, as the only truly independent WSP. And indeed Microcell has been driving competition in the industry, despite its relatively small market share of less than 10%.

With the take-over of Microcell by Rogers, some observers expected competition in the Canadian mobile services market to ease, with prices stabilizing and eventually rising. Competitors were particularly concerned with Microcell's CityFido offer, first introduced in Vancouver and then in Toronto. This service offered flat-rated local calling in a metropolitan area for \$45 a month and no usage charges for local calls. It was targeted at heavy users who move around within a city, and also as a replacement for fixed-location (or "wireline") telephone service.<sup>59</sup> It was widely believed that one of the reasons TELUS mobility had attempted to purchase Microcell, and Rogers had in fact done so, was to eliminate CityFido, or at least significantly restructure this offering.

Rather than ending CityFido, Rogers is continuing the service, albeit adding a \$6.95 per month access charge, bringing the monthly fee to \$51.95. It is also carrying out Microcell's intention of rolling out the service in Montreal.

This has alarmed both Bell Mobility and TELUS Mobility, who would like to see prices move higher and put an end to flat-rated calling plans. These service providers have already started offering significant promotions to counteract CityFido. For example,

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<sup>59</sup> Evans, Mark. "How Low Can Phone Deals Go?" *Financial Post*, November 25, 2004. The article quotes Michael Neumann, CEO of Bell Mobility, as saying that CityFido is priced much too low and suggesting a return to "rational pricing".

Bell offered Microcell customers a free camera phone and service for one year if they signed a three-year contract; TELUS offered a video camera and a year of free service on evenings and weekends in return for a three-year contract.<sup>60</sup>

More recently, Ted Rogers, CEO of Rogers, has suggested that his company will keep Microcell's Fido brand, but not necessarily its low price:

We have no commitment to keeping the price levels the same as they were and we've already announced a significant increase in the price for CityFido for new customers coming in late December and early January. We're not known for having rock-bottom prices. With Rogers, it's a premium brand, a premium service, a premium product.<sup>61</sup>

So, while in the very short run, at least, competition in the Canadian mobile market is taking place, even in the absence of MNP, the picture is considerably less clear for the future. Major surviving WSPs will now all be affiliated with, or operating divisions of, LECs or cable operators, who may wish to protect revenues from fixed-location services. Low churn rates and stable market shares suggest that, historically, competition has not been all that vigorous. We may currently be seeing a burst of rivalry that is trying to carve up Microcell's customer base, but that may disappear once market shares have settled. Indeed, as the quote in the previous paragraph shows, it is likely that the price wars have effectively stopped with Microcell's disappearance, and that the industry will revert to oligopolistic pricing.<sup>62</sup>

Entry into the mobile market by new suppliers will also be discouraged by the lack of MNP. For example, Virgin Mobile launched a wireless service in March 2005. At the launch, the president, Sir Richard Branson, stated that entry into Canadian markets

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<sup>60</sup> *Ibid.* See also an advertisement for CityFido Montreal in the Montreal Gazette, November 27, 2004, stating that the \$45 monthly fee includes the \$6.95 access charge.

<sup>61</sup> Carr, Nancy. "No Promises By Rogers To Keep Fido's Low Prices 'Significant Increase' For Cellphone Service Looms", *Ottawa Citizen*, December 10, 2004, at E2 [**No Promises by Rogers**].

<sup>62</sup> In February 2005, Rogers essentially dismantled Microcell's CityFido service in Vancouver, Toronto, and Montreal, by capping the number of free call minutes included in the basic price at 750 per month, charging a very high price of 50 cents for each additional minute, reducing the eligible local calling area, and increasing the price for messaging and optional features. See Decima Research, Report on Wireless, February 8, 2005.

was made more difficult by the lack of MNP. He urged the CRTC to order MNP quickly:

You can move in that direction tomorrow... You don't have to wait a few more years before the consumer is able to move their number to another network. In that way you'll bring about real competition in the industry.<sup>63</sup>

## **COSTS OF MANDATING MOBILE NUMBER PORTABILITY**

Opponents of mandatory MNP point to what they claim are significant costs of implementation. These can be grouped into three categories:

- Start-up costs
- Customer transfer costs
- Operations Costs

### **START-UP COSTS**

Start-up costs refer to the costs of developing and deploying the facilities, systems, and administrative procedures required for MNP. The nature of the costs will depend on the technical solution chosen. However, there is wide agreement that the preferred solution is to create databases that will identify, for each subscriber, the service provider to whom the number was last ported.<sup>64</sup>

Briefly, one or more databases are created to store subscriber information as to which carrier he or she is purchasing service from. When a number is ported to a

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<sup>63</sup> Globe and Mail, March 1, 2005. Branson is further quoted in Tyler Hamilton's article, "Cellphone Users Back Number Portability", (March 3, 2005, *The Toronto Star*) as stating: "It should be possible to have number portability in the next three or four months... [The CRTC] shouldn't be there for the industry. They need to be there for the consumer."

<sup>64</sup> Other methods, such as remote call forwarding, have lower start-up costs, but provide inferior service for porting numbers. They have been rejected by most regulators, except in a few cases as stop-gap measures until the required databases were installed and populated.

new service provider, the information in the database is updated accordingly. Then when the subscriber starts to make a call, the number portability system uses out-of-band signaling to check the database and find out which service provider to route the call to. Routing is executed by attaching a location routing number (LRN) to the call. The call is then transferred to the proper service provider, who completes it.

In Canada, this is the system that has been implemented for number portability for fixed-location subscribers (local number portability or LNP).<sup>65</sup> While the start-up costs for LNP are confidential, the CRTC did allow the ILECs to recover start-up costs for LNP and implementation of local competition, combined, in the amount of \$362,100.<sup>66</sup> The bulk of this amount would seem to have been for LNP.

If MNP were to be mandated in Canada, WSPs should be able to use the same databases as the LECs. In particular, incremental costs to the existing databases would be small, arising mainly from the need to increase storage and perhaps upgrade processing capacity. WSPs may have to upgrade their internal signaling systems, but this is necessary in any case to deliver new services and functionality. Again the incremental impact of mandating MNP is likely to be very small.

Developing internal procedures to handle porting requests and training employees to follow them will also engender start-up costs. Procedures have already been developed for LECs, and should be adaptable with few modifications. Training of personnel may be the biggest cost of MNP to WSPs.

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<sup>65</sup> The system, called Number Portability Administration Centre/Service Management System, or NPAC/SMS for short, is jointly owned by all LECs through the Canadian LNP Consortium Inc., and is operated by an independent administrator.

<sup>66</sup> Telecom Order CRTC 2000-143 (23 February 2000). More particularly, this is the amount that the ILECs were allowed to recover through higher rates during the period 1997 to 2001, i.e. the "revenue requirement" impact. The CRTC allocated this amount among the eight ILECs, ranging from \$220 million for Bell Canada to \$1.1 million for Island Telephone.

## **CUSTOMER TRANSFER COSTS**

Each time a new subscriber starts service, or an existing subscriber changes service provider, the relevant information must be entered into, or “uploaded” to the database.

In the absence of cost information, the CRTC set the charge for uploading ported numbers at \$5.00 per number.<sup>67</sup>

In 2003, the Canadian LNP Consortium proposed to reduce this charge. The new rate was kept confidential to protect the competitive position of the Consortium’s contractor, whose name is also confidential. However, given that the Consortium had the unanimous agreement of all of its shareholders, who also happen to be all of the carriers porting numbers, the CRTC approved the new charge. While this charge is not necessarily cost-based, it is very likely that the cost per number ported is less than \$5.00.

If the WSPs were to use existing databases to implement MNP, there is no reason to believe that the cost of porting numbers would be higher than \$5.00 per number; indeed, the costs will likely be significantly less.

## **OPERATIONS COSTS**

Once implemented, the porting system is largely automated. As a result, the principal costs are related to use of the databases, use of the signaling system to communicate with the databases, and the personnel needed to deal with complaints when, inevitably, things go wrong.

Costs of using the databases should be close to zero. Indeed, in 1998 the Consortium proposed, and the CRTC approved, a flat annual charge of \$25,000 per

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<sup>67</sup> Telecom Order CRTC 97-1243 (5 September 1997).

year per CLEC, for their use.<sup>68</sup> Similarly, signaling systems are typically over-provisioned, because commercially available equipment comes in fixed sizes, and so there is lots of spare capacity. The only significant costs may be due to some pressure on the CPU of various switches and to dealing with customers when number porting does not happen smoothly.

## THE U.S. EXPERIENCE

Once again, the U.S. experience may be suggestive. After mandating number portability, the Federal Communications Commission allowed carriers subject to rate-of-return or price-cap regulation to recover the costs directly from end-users.<sup>69</sup>

Before MNP was mandated in the U.S., various estimates of costs, and therefore of corresponding increases in prices to be passed on to customers, were made. For example, one think-tank estimated that the cost would be around \$1.60 per customer per month.<sup>70</sup> In fact, WSPs set their surcharges much lower than that. For example, Verizon Wireless set its monthly surcharge at \$0.45, while for Sprint PCS the surcharge was \$0.40. Furthermore, after a year's experience, in November 2004, Verizon cut its surcharge from \$0.45 to \$0.05, while Sprint cut its surcharge from \$0.40 to \$0.25.<sup>71</sup>

Cingular, a joint venture between SBC Communications Inc. and BellSouth Corp., inherited a variety of charges from its parents, ranging from 52 cents to \$1.25 a month; it has not yet set new rates, but these are expected to be significantly lower. AT&T Wireless continues to charge \$1.75.

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<sup>68</sup> CRTC letter dated 25 April 1998.

<sup>69</sup> Federal Communications Commission, Telephone Number Portability (CC Docket No. 95-116), *Third Report and Order* (May 5, 1998) at paragraph 135. Carriers were allowed, but not required, to recover their costs in this way.

<sup>70</sup> Pelofsky, Jeremy. "US Wireless Regulations Cost Customers \$2.62 a Month", *USA Today*, October 15, 2003, (online: [http://www.usatoday.com/tech/news/techpolicy/2003-10-15-wireless-costs\\_x.htm](http://www.usatoday.com/tech/news/techpolicy/2003-10-15-wireless-costs_x.htm)).

<sup>71</sup> *MobileTracker*, November 15, 2004, (online: [http://www.mobiletracker.net/archives/2004/11/15/sprint\\_and\\_veri.php](http://www.mobiletracker.net/archives/2004/11/15/sprint_and_veri.php)).

Note that these charges need not reflect costs: the FCC has left WSPs considerable flexibility in setting surcharges. Competitive tactics and other market conditions may enter into consideration. However, the low level of the charges, and especially their decreases as WSPs gain experience with MNP, suggest that the costs of MNP are not very high.

## FUTURE DEVELOPMENTS

Two future developments may significantly affect the costs of MNP. The first is the intention to bundle together mobile (wireless) and fixed-location (wireline) services that use the same telephone number for both.<sup>72</sup> Telephone number for basic local service offered by a local exchange carrier must be portable under CRTC rules. By extension, that would require shared numbers to be portable as well, if one of the sharing services is basic local service. In this scenario, MNP for mobile service would be a byproduct of LNP for fixed-location service, and the incremental cost would be zero.

The second development is the widespread adoption of VOIP as a technology. VOIP splits up voice communications into a string of packets and delivers them to destination using Internet Protocol. It also uses IP addresses to route the packets to a destination. The telephone number is merely a pseudonym for the destination address, much as a URL is for a web site. As a result, for VOIP, location number portability is trivial. Indeed, one of the features of VOIP that is expected to attract customers is precisely the ability to use one's telephone number from various locations. But once location number portability is available, it is very easy to implement service provider number portability.

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<sup>72</sup> For example, see Ted Rogers comment to the *Ottawa Citizen* in December of 2004 (*No Promises by Rogers supra* note 60). “[T]he future of the mobile phone business is not in simply undercutting competitors’ prices, but an ‘evolution’ in which ‘the wireline phones at home being replaced by...a combination of a phone that will work in the house...and then over to the cellular switch”.

Thus, to the extent that WSPs implement VOIP technology, the cost of MNP will fall to near zero.

## CONCLUSION

Making MNP mandatory in Canada would have a positive impact on competition among WSPs, and probably on competition for fixed-location service, as well. While the benefits are not likely to be large in the very short run, they may be quite significant in the longer run: in the absence of MNP, WSPs may settle down to a comfortable oligopoly. In such a situation, MNP would become important as a pro-competitive measure. On the other hand, costs of MNP likely would be very small under all plausible scenarios, given that LNP for fixed-location suppliers is already in place and MNP can “ride” on its infrastructure.

In the longer run, service providers may roll out MNP voluntarily, without being mandated to do so. As mentioned above, service providers are introducing bundles of services that allow a customer to have the same number for both fixed-location (or wire-line) and mobile (or wireless) services.<sup>73</sup> It follows that, if number portability is mandated for fixed-location service, it will also be available for mobile service that uses the same number.<sup>74</sup>

Many service providers have announced their intention to migrate their customers toward VOIP technology for basic local services. One of the marketing attractions

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<sup>73</sup> Charlotte Burke and Robert Odendaal, “Next Generation Consumer Services”, BCE Business Review Conference, December 15, 2004. This is part of a larger strategy, where service providers are attempting to assure themselves of customer loyalty by selling them a bundle of fixed-location telephony, mobile telephony, Internet access, and television reception (over traditional cable, satellite, or twisted copper pair). The belief is that customers will be unwilling to switch suppliers for just one or two components and so break up the bundle.

<sup>74</sup> Ted Rogers, CEO of Rogers Communications, Inc., is quoted as saying (1) Rogers is rolling out VOIP starting in July 2005, “with complete power backup and number portability” (2) Internet telephony and wireless services will be linked together by 2006, (*Financial Post*, December 10, 2004 at FP5). It follows that Rogers’ wireless service will have number portability by 2006 at the latest.

that, it is hoped, will encourage users to migrate to VOIP, is that it will easily enable location number portability. Once this is available, it is a short step to voluntarily offering customers service provider number portability as well. Indeed, providing MNP would be a way to reduce the risk to customers associated with switching to a new service provider: if the customer is not satisfied, he or she can easily switch to another supplier. This anti-lock-in feature could be a strong marketing point.<sup>75</sup>

More generally, VOIP illustrates that traditional telephone numbers have many potential uses as personal numerical identifiers that transcend cultural and language differences. For example, they can identify not only the source and destination of communications but also user profiles and preferences, and can serve as keys in databases for applications outside telecommunications.<sup>76</sup> Such developments make it desirable to give users more control over the telephone numbers that identify them. For example, telephone numbers might be assigned directly to users, rather than to service providers, as a way of:

giving end users greater control over [telephone] numbers they are assigned that they wish to use for more than one type of service, or in connection with which they wish services to be supplied by more than one service provider; and making it easier for end users to demonstrate their rights to use the [telephone] numbers that they are assigned.<sup>77</sup>

If traditional telephone numbers are directly assigned to users, and are in some sense owned by them, MNP would follow as a side effect.

In conclusion, it would seem that there is a case for mandating MNP in Canada. In the very short term, competition in the mobile services market is vigorous. However, the industry has been dominated by oligopolistic behaviour in the past, and there are

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<sup>75</sup> Lock-in can better be achieved on a voluntary basis, in exchange for a price discount, through multi-year contracts with large termination fees.

<sup>76</sup> European Conference of Postal and Telecommunications Administrations (CEPT), Electronic Communications Committee, Implications for numbering, naming and addressing of the convergence of the Internet and the Telco networks, ECC Report 26 (International Telecommunications Union, 2004) at 50.

<sup>77</sup> *Ibid.* at 51.

suggestions that it may be again, in the near future. Mandatory MNP would offer some measure of protection against that happening.

In any event, MNP offers immediate and on-going benefits to customers, who will find switching WSPs less inconvenient. Against this, the costs of implementing MNP would likely be very small.

## POSTLUDE

Since the finalization of this report, but prior to its publication, the CWTA has announced that its members will implement MNP on a voluntary basis.<sup>78</sup> This development, while welcome and confirmative of the conclusions in this report, is not a certainty and raises several issues of implementation. First is the issue of when MNP will become a reality in Canada. The CRTC has issued Telecom Public Notice 2005-14<sup>79</sup> which calls for comments on an industry proposed implementation scheme that would see MNP become a reality in September of 2007<sup>80</sup>. Second, since mobile services are presently forborne from CRTC regulation, there is the distinct possibility of a new monthly charge to subscribers for MNP. As indicated above, the U.S. experience with MNP, as well as Canada's own LNP experience, both indicate that the industry may price MNP well above cost – at least until sufficient competition or regulatory scrutiny is focused on the problem. Third, subscribers may be reluctant to switch wireless carriers if numbers are not ported within a few days, preferably same

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<sup>78</sup> CWTA, "Canada's Wireless Industry to Implement Number Portability", April 21, 2005, (online: [http://www.cwta.ca/CWTASite/english/whatsnew\\_download/apr21\\_05.html](http://www.cwta.ca/CWTASite/english/whatsnew_download/apr21_05.html)). See also PIAC, "MEDIA RELEASE: Wireless Number Portability Promises Should Be Kept", April 22, 2005, (online: [http://www.piac.ca/MNP\\_Media\\_Release.pdf](http://www.piac.ca/MNP_Media_Release.pdf)).

<sup>79</sup> Telecom Public Notice CRTC 2005-14, (September 16, 2005). (Online: <http://www.crtc.gc.ca/archive/ENG/Notices/2005/pt2005-14.htm>).

<sup>80</sup> The CWTA position is based on a report issued by PriceWaterhouseCoopers LLP, "Implementation of Wireless Number Portability: Setting a New World-Class Standard" (online: [http://www.cwta.ca/CWTASite/english/CWTA\\_WNP\\_Project\\_Plan\\_Report.pdf](http://www.cwta.ca/CWTASite/english/CWTA_WNP_Project_Plan_Report.pdf)).

day (or within hours)<sup>81</sup>. Fourth, it is not clear whether MNP will include transfer of numbers from voice over Internet protocol (VoIP) to wireless and back. Such flexibility could be anticipated to encourage competition in the local services market as consumers are given the option to forgo a wireline telephone in favour of only a wireless one. In addition, the overlap of geographic areas delimited by wireline “area codes” and wireless service areas may not be perfect and may lead to unexpected results for consumers wishing to port numbers in areas they feel should be serviced by similar numbering regimes. Fifth, and perhaps not intuitively for consumers, the creation and administration of the MNP database may be subcontracted by the CWTA to a U.S.-based entity that may be subject to orders made under the USA PATRIOT Act – potentially meaning Canadians’ cell phone numbers and related subscriber details were available to U.S. authorities under that legislation. Finally, there is a question of enforcement of the new MNP regime. If such an MNP service is run by the CWTA, will it apply to new non-member competitors? And will the CRTC keep a regulatory hand in to adjudicate consumer MNP disputes with carriers? These implementation issues should be closely followed to ensure that the promise of MNP made by the CWTA is kept in a fashion that truly encourages competition and flexibility in the wireless market in Canada.

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<sup>81</sup> *Ibid.* Although there continues to be discussion around this issue, the CWTA proposes that MNP can be executed within 2.5 business hours for simple wireless to wireless transfers, while intermodal transfers would continue to require 2 business days to execute. Refer to comments on PN 2005-14 (online: [http://www.crtc.gc.ca/PartVII/eng/2005/8620/c12\\_200510934.htm#2c](http://www.crtc.gc.ca/PartVII/eng/2005/8620/c12_200510934.htm#2c)), for example, comments made by TELUS Communications Inc.