Flat-Rate State-Wide Calling Plans:
A Report to the Legislature

by the

Minnesota Public Utilities Commission

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Introduction

On May 29, 2004, Governor Pawlenty signed into law House File No. 2151 (2004 Regular Session Laws, Chapter 261). Article 6, section 4(b) states:

> By January 15, 2005, the Public Utilities Commission must develop and recommend to the legislature a plan for increasing the number of plans offering flat-rate statewide calling, making them available to all customers in Minnesota, and addressing methods of reducing the cost of such plans.

Flat-rate, state-wide calling plans are those calling plans which, for a single fee (typically, a monthly fee), a subscribing customer may call any phone number within the state of Minnesota with no additional per-minute charge. Such plans may be open-ended in that there is no limit on the number or duration of calls. Alternatively, such plans may be limited to a maximum number of minutes per month.

A plain reading of the Legislative mandate requires that the Commission address how to:

(a) increase the number of plans,
(b) make them available to all Minnesotans, and
(c) reduce their cost.

The Commission believes that these three components can be captured by focusing most directly upon the third issue: cost reduction. The technical ability of the industry to provide state-wide calling is not in question as the industry today can, and does, provide the necessary physical interconnections. Rather, it is the cost structure of the industry which directly affects the retail price of such plans and, hence, the availability of plans and their attractiveness to consumers.

Some Existing Calling Plans

The Commission conducted a survey of the industry with respect to state-wide calling plans. A sample of available calling plans and low-price alternatives is described below. This sample is not exhaustive, but represents the variety of options available to Minnesotans. Calling plans typically include the ability to make both in-state and interstate calls.

Eschelon Telecom offers an array of wireline calling plans, primarily designed for business customers. Eschelon s plans include blocks of minutes ranging from 1,000 minutes at $49.99 per month to 20,000 minutes at $749.99 per month. Such plans are only available to customers purchasing local services from Eschelon that make use of Eschelon s switch. Eschelon provides service in only those exchanges served by Qwest Corporation.

Vartec Telecom offers unlimited wireline long-distance calling at a rate of $49.95 per month. Vartec restricts the use of the plan to residential voice traffic only. Vartec may terminate the service for a number of reasons including: using the plan for commercial business purposes and for data transmission. Vartec makes this plan available only to customers that purchase basic local service from Vartec. Vartec offers local service in 24 exchanges in the metro area.

Midwest Wireless offers a number of calling plans ranging from 100 minutes at $24.99 per month to 4,800 minutes at $299.99 per month. No roaming fees apply to calls within an eight-state area that includes all of Minnesota. It can be expected that wireless reception is not ubiquitous throughout the state.

Comcast provides local and long-distance telephone service over its cable network. At $44.99 per month Comcast offers a package that includes unlimited local calling, several calling features, and 5,000 minutes of domestic long-distance calling. Comcast offers service to approximately one-half of the households in the metro area.

Broadwing Telecommunications offers calling plans ranging from 300 minutes at $19.95 per month to 1,000 minutes at $64.95 per month.

Qwest Long Distance Corporation offers long-distance calling that takes on a flat-rate nature once a certain level of calling has been reached (400 minutes per month). It charges 5 cents per minute to a maximum of $20.00 per month, plus a recurring monthly fee of $2.99. This plan is available to residential customers purchasing local service from Qwest Corporation.

As an alternative to formalized flat-rate calling plans long-distance calling cards are readily available from a wide variety of retail outlets in the state. Some retailers offer such cards at rates below 3.5 cents per minute.

Interconnecting Networks

The telephone network in Minnesota comprises numerous individual networks, some quite small and localized, others spanning the state. When a telephone call traverses the state of Minnesota, whether from the Twin Cities to Duluth, or from Humboldt in the northwest to Caledonia in the southeast, several individual networks will carry the call, passing it from one to another. Typically, such calls may be carried by three or four networks. With considerable attention to the engineering of networks and the interconnection of individual networks, the telephone industry in Minnesota has been successful in providing high quality service throughout the state.

When the telephone industry was in its infancy local networks, each centered at a local switch, began offering service in urban centers, both small and large. Over time these local networks, referred to as exchanges, expanded into the more rural areas. As these local networks grew, so too did long-distance networks which connected the exchanges, allowing customers to call across the state and the nation. This simple configuration of networks has evolved, today, into a highly complex network of networks, the complexity reflecting technological, market, and regulatory influences. Some telephone service providers operate numerous local exchanges while some providers offer both local and long-distance services. At least one Minnesota service provider aggregates, at a single location, long-distance calls from many of the rural areas, thus facilitating the transfer of those calls to long-distance carriers.

Local Calling Areas

Exchange boundaries have effectively disappeared in some areas of the state allowing customers in those areas to make toll-free calls to their community of interest, the Twin Cities calling area being the most obvious example of the extension of local calling beyond the exchange boundary. Wireless carriers provide another layer of service, a layer which blurs exchange boundaries even further.

Minnesota Statutes and Commission Orders make provision for creation of local calling areas whereby calls between one or more adjacent exchanges can be made with no per-minute charge, their cost being incorporated into subscribers monthly bills. Such options may not be a substitute for state-wide toll-free calling, but they make it possible for subscribers to obtain toll-

free calling within their community of interest. Note that of the approximately 700 exchanges in Minnesota, 88 percent are part of a local calling area that includes at least one other exchange.

Intercarrier Compensation

Typically, telephone service providers own and operate their own network facilities, although some providers may lease a portion of their facilities from other providers. Some providers own no facilities, simply repackaging and reselling services purchased at wholesale from facilities-based providers. But, no matter how the various providers deliver their services, the owners of the facilities seek compensation to support their networks. As such, as a call is handed off from one network to another, one carrier compensates another. Such compensation is often referred to as access charges. Functionally, access services comprise switching and/or transport elements.

Companies that provide local wireline service to customers within an exchange (local exchange carriers (LECs)) also provide access services to the companies which carry calls between exchanges (interexchange carriers (IXCs) or long-distance carriers). When a residential or business customer chooses to place a long-distance call, that call traverses the LEC s network to be passed on to the IXC. The LEC bills the IXC for access services, that is, for the use of the LEC s network. Thus, the LEC s network is paid for, in part, by a direct billing to the local customer via the local service bill and, in part, by billing the IXC which, in turn, passes that expense through to the customer via the long-distance bill. The IXC s network is paid for directly through the long-distance bill.

Designing Flat-Rate State-Wide Calling Plans

Typically, for the calls placed by most telephone customers, the LEC charges the IXC a per-minute rate significantly higher than the cost of switching and transport. This excess enables the LEC to charge its local service subscribers a monthly basic service fee that is lower than the cost of the fixed local network which serves those customers. This subsidy is most evident in the less densely populated areas of the state where network costs per customer are relatively high. Cost studies conducted in recent years, have found that such costs may exceed $100 per line per month.

When a telephone service provider contemplates offering a flat-rate state-wide calling plan it must consider the per-minute rate it will pay to purchase access services from LECs, in addition to all its other costs. Based upon the responses to a survey conducted by the Commission in 2001, per-minute access services (switching and transport) are priced, on average, at

approximately 15 cents per minute to originate and terminate a call in many of the more sparsely populated areas of the state. Commission staff has estimated that such rates are approximately ten times higher than the actual per-minute cost of such services. Fortunately, the prices of access services in many areas of the state are significantly lower than 15 cents per minute. Within some of the more densely populated areas access service rates for origination and termination average approximately four cents per minute. Such rate variations, along with predictions of customer calling patterns (e.g. monthly usage and geography of usage) must play a part in the pricing of state-wide calling plans.

Access Charges in a Broader Perspective

For a number of reasons, aside from being a critical factor in the pricing and availability of calling plans, the access charge mechanism is at the heart of a broader industry-wide debate at both the federal and state levels.

Background

Historically, the access charge mechanism and the magnitude of such charges were established in an era predating competition in the local market. Typically, access rates were determined in a rate design process that allowed monopoly local service providers to recoup the total costs of their regulated operation. Within state jurisdiction state regulators determined the total intrastate revenue required to operate a regulated company and set the rates for business and residential customers, and for access services, to allow the company to meet that revenue requirement. Many factors, other than the actual cost of access services and the fixed network, were considered in that rate design process, factors such as the promotion of a high level of telephone subscribership through low local rates. Indeed, a key characteristic of such ratemaking is that the actual economic cost of the provision of access services was not given much or any weight in the setting of access rates. It is only in recent years that the Commission has possessed the impetus (promoting competition and universal service) and the tools (cost modeling techniques) to estimate the actual economic cost of access services.

Current Issues

The local telephone industry has witnessed a profound evolution in recent years due to changes in technology and regulation. Through a series of statutory changes, beginning in 1995, the Minnesota Legislature began making provision for and encouraging the development of competition in the local telephone market. Minn. Stat. § 237.16, as amended in 1995, directed the Commission to adopt rules defining procedures for competitive entry and exit, promoting fair

and reasonable competition, setting standards to facilitate and support the development of competitive services, and prescribing methods for the preservation of universal and affordable local service. In 1996, the U.S. Congress passed the Telecommunications Act of 1996 making provision (i) for competitive entry into the local telephone market, (ii) for the provision of advanced telecommunication and information services in all regions of the nation and, (iii) for the provision of such services to all Americans at rates that are affordable and reasonably comparable between urban and rural areas. Since 1995, additional amendments to Minnesota statutes (i) have further articulated the importance of competitive entry and universal service, (ii) have incorporated references to the Telecommunications Act of 1996, and (iii) have provided additional direction and authority to the Commission for competitive enforcement.

At the national level the FCC, taking its impetus from the Telecommunications Act of 1996, has devoted considerable effort to the reform of the interstate access charge mechanism. Since 1997, through a staged series of modifications, the FCC has changed the interstate access rate structure to reduce per-minute rates toward their economic cost (thus lowering interstate rates and making it cheaper to call across the nation than within the state). The FCC has allowed companies to recoup their fixed network costs through higher monthly rates and through an explicit universal service fund that supports high-cost areas. The FCC continues to press a more substantial reform of intercarrier compensation through a recent proposal whereby companies would recoup all of their fixed network costs directly from their own customers who use the network (while making universal service support available to areas requiring it). Under the general presumption that traffic flows to and from any particular geographic location in an equal proportion, the FCC proposes that the companies carrying the calls cease to bill each other for the per-minute costs, such costs being born by the customers making and receiving the calls. This proposal is presently in debate.

The access charge mechanism displays several disadvantages as a method for delivering universal service support (that is, for keeping basic local service rates below the actual network cost). First, as an implicit subsidy it is difficult to monitor, thus hampering accountability. Second, it is a subsidy targeted to high cost areas with no determination as to whether individuals actually require the subsidy to maintain local service. Third, prices containing significant subsidies may inhibit the development of viable competition and the benefits it may yield in the form of consumer choice, service quality, efficiency, and as an impetus to technological advance. Competitors cannot profitably enter local markets where they bear operation costs higher than the subsidized rates they must meet in order to compete. Market incumbents, too, are adversely affected as competitors have an incentive to serve only high-yield customers, typically business customers in dense areas. Historically, incumbents have been required to provide service within their service areas and have relied upon such high-yield customers to offset the cost of serving high-cost, low-yield customers. Loss of high-yield customers to competitors reduces the subsidies available to support the low-yield customers. Such pressure on incumbents is not a

function of poor business decisions. Rather, it is a function of the subsidies which cloud the pricing mechanisms necessary for competition.

Additionally, access charges impose a competitive disadvantage upon the wireline long-distance companies because wireless carriers, by decision of the FCC, pay cost-based rates for access services within their local calling areas. The Minneapolis local calling area includes, effectively, all of the state of Minnesota. As such, an intrastate wireless call is not subject to above-cost access charges. Without the burden faced by the wireline carriers, the wireless companies offer attractive long-distance packages which are eroding the wireline carriers market share. Beyond placing the wireline carriers at a competitive disadvantage, the decline in wireline long-distance calling reduces the access charge subsidies available to the LECs hindering their ability to offer service at low rates.

Within the last two years the ability to send voice messages over the internet (voice over internet protocol (VOIP)) has become a commercially viable reality. Such calls are not subject to state regulation with respect to access charges and, although the debate continues in Washington and the courts, such calls are not likely to be subject to FCC access charge regulation. Absent the revenue contribution embedded in access charges VOIP can offer attractive calling packages eroding minutes from the traditional network and, as such, reducing support for universal service.

Summary and Recommendation

A critical factor affecting the number, availability, and retail price of flat-rate state-wide calling plans is the underlying per-minute cost of compensating each of the individual networks which carry calls throughout the state. Typically, in the wireline segment of the industry, such intercarrier compensation (or access charges) has been set by regulators, during the local monopoly era, at levels significantly higher that the actual per-minute costs of handling the calls. This practice allowed the local service providers to provide service at monthly rates below the cost of their networks in the belief that low local rates encouraged a high level of subscription to the network.

Although there are some flat-rate state-wide calling plans available to Minnesotans, there are few plans that are generally available across the state. A reduction in access charges to the economic cost of switching and transport can be expected to significantly reduce the per-minute cost of developing flat-rate, state-wide calling plans. It can be expected, with such a reduction, that the market would respond with numerous plan offerings similar to the proliferation of plans that has been witnessed with the growth of the wireless and VOIP segments of the communications industry.

A reduction in access charges is consistent with broad national and state efforts to encourage local competition and provide universal and affordable service to ratepayers. As a means for subsidizing fixed network costs the access charge mechanism displays several disadvantages. First, and foremost, the access charge mechanism does not apply to many wireless calls or to any voice-over-internet calls, both areas over which state legislators have limited or no jurisdiction. With the rapid growth of wireless and VOIP calling there will be fewer minutes of calls subject to access charges and, as such, there will be less access charge revenue to support the social goal of universal service. Second, the access charge mechanism puts wireline long-distance carriers at a competitive disadvantage relative to the wireless carriers and VOIP providers and discourages investment in the wireline network. Third, the access charge mechanism is largely invisible to external examination by legislators or ratepayers. Fourth, access services are not subject to direct competitive pressure. Typically, only one company provides wireline service to a home or business granting that company, effectively, a monopoly. Fifth, the access charge mechanism subsidizes low volume long-distance users at the expense of high volume users. A particular customer may pay a rate for local service significantly less than the network cost. If that customer makes no long-distance calls there is no access revenue available to allow the local provider to recoup the cost of the network for that customer.

With a reduction in access charges the local service provider suffers a loss in revenue. Ultimately, if the provider cannot absorb this loss, the provider may seek to increase its rates for local service. At some point, a rate increase may cause customers to reduce or give up telephone service. However, there is considerable evidence indicating that because a relatively small part of the household budget is devoted to telephone service, and because telephone service is a necessity in today s culture, it is unlikely that customers will drop off the network even with large increases in local rates. That is not to say that customers could be expected to be content with large rate increases. But, whatever the impetus for maintaining low local rates, it is possible to explicitly subsidize local rates by way of an explicit universal service fund. The Minnesota legislature has made provision for the development of such a fund.

The Minnesota Public Utilities Commission has devoted considerable attention since the Act to opening local markets to competition as envisioned by the federal Act and Minnesota statutes. Recognizing the threat which the present access charge compensation scheme poses to both competitive entry into the local market and the preservation of affordable local phone service the Commission has opened several dockets to address access charge reform. The Commission is also addressing a rulemaking as envisioned by Minnesota statutes to develop an explicit universal service fund to ensure that Minnesota ratepayers receive affordable service. In total, these efforts require considerable attention to complex and substantial social and economic factors.

The Commission recommends that the Legislature take no direct action regarding calling plans and that it allow the Commission to proceed with its open dockets to reform the access charge

mechanism and to develop an explicit universal service fund to support local rates where it is deemed necessary. A reduction in access rates can be expected to fuel the development, by the private sector, of flat-rate state-wide calling plans.