
McLean & Brown

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Calling Rural America: Preserving Affordable Connectivity

Over the past several years, McLean & Brown has published a series of white papers to contribute to the national debate regarding critical universal service issues. Two years ago, we published a paper titled *The Coming Train Wreck in Universal Service Funding – Why is it coming, and how can it be avoided?*¹ This white paper documented a number of factors that were causing the size of the universal service fund (USF) to grow significantly, at the same time that the current mechanism for funding universal service from assessments on interstate end-user revenues was experiencing problems. The recent Recommended Decision of the Universal Service Joint Board offers a glimmer of hope that several of the key problems with USF portability are finally becoming better understood, however many of the fundamental issues threatening the USF remain unresolved ... and some are getting worse. At stake is the ability of consumers in rural areas of the nation to have affordable connections to communications networks and the world.

In addition to the challenges facing the USF, there are three other issues currently moving independently through the federal telecom policy apparatus that will also have profound impacts on rural consumers and affordable network connections. These issues include:

- Intercarrier compensation reform;
- The regulatory treatment of VoIP and IP-enabled services; and
- Inter-modal local number portability.

While these issues are moving independently through the policy apparatus, it is the combined impact of policies developed in these proceedings that will determine the ability of rural carriers to invest to keep consumers in the most rural parts of the nation connected to the information network and the opportunities of the 21st century.

Rural telephone companies operate on business models that literally defy economic gravity. In the name of universal service, they sell network connectivity at prices substantially below their cost of production. This has been done with the express blessing of federal and state regulators, and indeed the principles of universal service and affordable connectivity are codified in the Telecommunications Act of 1996. The networks that these companies provide connect rural consumers to the world, and in many cases provide their only connection to the Internet. Affordable connectivity is made possible by funding from two additional revenue sources – access charges and the USF. As will be discussed below, both of these sources are under serious threat – on multiple fronts.

The downside risk to rural consumers is severe. Unless policy makers at the highest levels “connect the dots” and set a consistent and coordinated national rural policy agenda that focuses on preserving affordable network connectivity for all Americans, then rural America may indeed face a catastrophe of train wreck proportions.

President Bush recently set a national goal of “universal, affordable access to broadband technology by the year 2007.”² Unless policy makers recognize and solve the key policy issues threatening rural cost recovery mechanisms and investment, rural communities may have difficulty maintaining even current service levels, let alone ubiquitous, affordable broadband connectivity. Failure to understand the interconnected nature of these issues portends a serious risk of some rural communities becoming information have-nots.

¹ Copies of this and other publicly available M&B publications can be found on our web site at www.mcleanbrown.com.

² Reuters UPDATE – *Bush pushes broadband rollout by 2007*, March 26, 2004.

In this paper we will first address some of the sources of threat to affordable rural connectivity. These include:

- Efforts to artificially create competition
- Misguided policy regarding USF portability
- Problems with current intercarrier compensation mechanisms, including proposals to replace current access charges with a system of “bill and keep”
- Proposals by VoIP and IP-Enabled service providers that they not be required to pay access charges and contribute to the universal service fund
- Inter-modal local number portability

We will then review a number of the proceedings currently going on before the FCC, and suggest policy choices that will allow rural consumers to continue to be connected to the information economy.

Creating “Competition”

The 1996 Act was premised on the twin goals of competition and universal service. But unfortunately, while regulators attacked the task of creating competition in formerly monopoly markets with great zeal and gusto, the preservation of universal service was at best taken for granted, and at worst ignored. Rather than viewing their goal as creating a fertile environment where competition based on sound economic fundamentals could take root and grow, some policy makers viewed their task as one of creating competition by whatever means necessary. A good example of the extent and length that regulators went to create “competition” can be seen in the local residential market.

For many decades, the holy grail of regulation has been to keep the rates for basic telephone service low – very low. This was done by consciously pricing other services such as long distance and business services significantly higher than their cost. Competition was able to successfully enter these markets, since the margins in the incumbent’s price structure provided an opportunity for competitors to enter and be successful. The rates for basic residential telephone service, however, were still kept low, and often below cost. This proved to be a dilemma for the entry of competition into residential markets, as there was no natural margin for potential competitors to exploit in their entry strategy. To “fix” this problem, regulators developed a form of limbo-economics called “TELRIC” to define the “cost” of the incumbent’s network elements to be so low as to allow competitors to enter the residential market through the leasing of network elements at low prices. This new “competition” came at a price, however. That price included a serious lack of incentives for the incumbents to invest in their networks, the loss of hundreds of thousands of jobs, trillions of dollars of market capitalization, and the near extinction of several major telecom equipment manufacturers.

USF Portability

Regulators also sought to create “competition” in rural markets by providing wireless carriers and others access to the federal support mechanisms that incumbent carriers were receiving for serving their remote, high-cost customers. The 1996 Act states that this support can be portable to competitive Eligible Telecommunications Carriers (ETCs) if the state regulator finds such funding to be in the public interest. These efforts to create competition suffered from three fundamental problems. First, wireless carriers, cable companies and others were already competing throughout rural America. Wireless carriers built their networks and in cities and towns and along major highways where customer density was high and their costs were low. Cable companies built within the city limits where subscriber density could support the cost of their networks. Nonetheless, ETC designations and receipt of high-cost support for many of these carriers was found to be in the public interest because “competition is in the public interest.”

The second problem was that, in the name of “competitive neutrality”, it was decided that a competitive ETC would receive the same “per-line” support as the wireline incumbent, regardless of its actual cost. This problem was compounded by the fact that it was also decided that the competitive carrier was not required to construct facilities to serve throughout the same service area as the incumbent. Thus, many competing carriers were able to receive “high-cost” support as though they were serving throughout the entire area, even if they only continued to serve the low-cost customers that they already served.

The third and final problem was that while state regulators were charged with the job of determining when the designation of additional ETCs for receipt of federal funding was in the public interest, they faced none of the costs of providing this additional federal funding. In essence many states were faced with the question of whether it was in the public interest for more federal money to come into their state.

The combined impact of these problems was that the amount of federal funding going to competitive carriers began to skyrocket, placing additional pressure on already overtaxed USF funding sources. At the same time, questions began to emerge about whether rural consumers were seeing actual benefits commensurate with this growing public cost. While the recently released Joint Board Recommended Decision signals a positive change in regulator’s perception of the problems with the existing USF portability regime, there still remain serious issues that must be resolved if the USF is to remain as a viable source of support for affordable and advancing rural connectivity.

A final example of over-exuberance in the promotion of competition can be seen in the area of wireline to wireless local number portability. In the name of competition, regulators have made it possible in many markets for consumers to change their service provider without having to change their telephone number. In the case of wireline to wireless number portability, however, the current rules have the potential of creating serious negative consequences for consumers in many rural areas. This is due to the fact that “local” calling areas for wireless carriers are quite large, often as large as an entire state, or more. This can require the rural carrier to transport each “local” call for a customer who exercises this option over long distances with no compensation. The cost of providing this portability is often very large, without any apparent effort to balance benefits and costs.

The Access Charge Issues

The importance of access charges in the rural connectivity equation can be seen in the following chart which contrasts the revenue sources of all rural ILECs vs. the RBOCs.³

Source of Revenues		
Source	Rural	RBOC
End User	27%	61%
Access Charges	26%	10%
USF	30%	0%
Other	17%	29%

Notice first that the access charges and USF make up over half of rural carriers’ revenues, vs. only 10% for the RBOCs. The 56% represents an average for all rural carriers, and in the more rural, remote and high-cost areas of the nation this percentage is much larger. The other significant point is that access charges themselves represent almost as large a revenue source as the USF. What the chart does not show, is that it is far more costly to serve sparsely populated rural areas than more densely populated urban areas. Data from the Rural Task Force (RTF) study indicates that the average investment for all rural carriers is \$5,089 per line, vs. \$2,856 for non-rural carriers. Small carriers serving the most remote rural areas have significantly higher investment, with carriers serving between 500 and 1,000 lines averaging \$6,510, and carriers serving less than 500 lines averaging \$10,510 per line in investment.⁴ Rural access charges are also higher because of the unique challenges of transporting traffic over long distances (sometimes hundreds of miles), and the relatively low volumes of traffic that do not afford the same scale economies in transmission facilities as exist in urban areas.

³Data from NTCA ex-parte filing in CC Docket 01-92, January 7, 2004 at pages 7 and 8.

⁴ Rural Task Force White Paper 2 – *The Rural Difference*, at page 47.

Rural access charges are under attack on two fronts. There are currently proposals circulating among RBOCs and long distance companies to eliminate access charges all together, and adopt a “bill and keep” regime where carriers would originate and terminate each other’s traffic at no charge. The second attack involves arguments regarding how VoIP and IP-enabled services should be regulated, and what their payment obligations should be for utilizing the networks of local carriers.

Bill and Keep

The problems with the current intercarrier compensation regime, and the many problems posed by bill and keep as a potential solution, are more fully addressed in M&B Special Edition Issue Update *The Intercarrier Compensation Debate: Bill & Keep – Bad for Universal Service and for Rural America*, July 27, 2003. The current intercarrier compensation regime consists of a hodge-podge of disparate mechanisms that charge different rates depending on who the carrier is (IXC, CLEC, CMRS, ISP, etc.) and what the traffic consists of (local, intrastate toll, interstate toll, Internet access, etc.). Such disparities are causing widespread arbitrage. These problems coupled with the evolution from a copper, circuit-switched voice network to a network more defined by fiber, packet switching and a convergence of voice and data, is making this current regime unsustainable. Some parties have called for a “bill and keep” regime where other service providers would not compensate ILECs for use of their networks, and rural ILECs would recover all of their costs from their end-users and from the universal service fund. Bill and keep would have very serious negative consequences for rural consumers.

Recently there have been press reports of a “deal” among large local and long distance companies to adopt a bill and keep regime as a replacement for access charges and other forms of intercarrier compensation.⁵ It is understandable why the RBOCs and the large long distance companies would favor bill and keep. The RBOCs have long since evolved from being merely local phone companies, and each now has significant long distance and wireless operations. Each of these entities generates significant volumes of traffic that needs to be terminated on the networks of other carriers, and the ability to terminate this traffic for free would clearly be in their advantage. What is not so clear is what impact a bill and keep regime would have on the overall public interest, and more specifically, on the ability of rural companies to recover their higher costs, and maintain affordable and advancing network connectivity for rural consumers.

As shown on the “Sources of Revenues” chart, rural carriers receive, on average, over one-quarter of their

⁵ *Phone Companies Near Deal on Access Fees*, USA Today, March 19, 2004.

revenue from access charges. For the average rural carrier with less than 100,000 lines, this amounts to over \$22 per line per month. For carriers with less than 500 lines, the average impact is over \$50 per line per month.⁶ These revenues are critical to these carriers' ability to provide affordable network connectivity to their customers, and to invest to provide advanced service capabilities. If a bill and keep system were to be implemented, there would be only two places to obtain this revenue – increased end-user charges or an increased USF. Increasing already over-burdened end-user charges would violate the mandate of the 1996 Act that rates be reasonably comparable between urban and rural areas. If this revenue loss were to be made up by increases in the universal service fund, this would add over \$2 billion to the current \$3.4 billion high-cost fund.⁷ Regulators are currently struggling to fund current levels of support, so unless some new and more sustainable funding mechanism is developed, increases in the USF of this magnitude would pose serious problems. Furthermore, unless the USF portability issues discussed elsewhere in this paper are solved, the ultimate size of using this fund to replace access charges could be significantly larger.

VoIP and IP-Enabled Services

The issues related to IP-Enabled Services and rural connectivity are more fully discussed in M&B Issue Update *VoIP and Universal Service*, January 19, 2004. While sometimes couched in the vernacular of “deregulation” or “avoiding regulatory fees and taxes” or not applying “legacy regulation”, what this debate essentially comes down to is that some providers of communications services would prefer to not have to pay for the use of networks and facilities that are an integral part of the services that they offer.

VoIP and IP-enabled services depend on the affordable connection of all customers to the network as an essential component of their services. Without these connections, such services would not be possible. Before a customer can subscribe to a VoIP

telephony service such as Vonage, they must first have a broadband connection to the Internet. In densely populated urban areas this is not a problem, as consumers have a choice among multiple broadband providers using DSL, cable, wireless and other technology platforms. Even in rural areas, customers living in or near town often have choices for broadband connectivity. However as you move further away from the towns, distance increases, density decreases, and the cost of providing connectivity goes up substantially. As was shown in the Sources of Revenue chart, on average, access charges and universal service account for over half of the cost of providing affordable connections to rural consumers. In the most remote areas, the percentage is significantly higher. If VoIP providers are excused from having to pay into the universal service fund that supports affordable rural connectivity, or avoid paying access charges on the traffic that they send to the PSTN that also help to recover the higher costs of rural networks, then broadband service and the opportunity to subscribe to services such as VoIP may remain out of reach for many rural consumers.

Phone-to Phone “IP-Enabled” services, such as long distance services offered by companies like AT&T and Level 3, also depend on the connection of all customers to the network as a necessary part of their service offerings. Without the ability of their customers to place calls to all households and businesses nationwide, their service would be of little value to consumers. Furthermore, unlike Vonage-like VoIP services, many of the users of these phone-to-phone services are totally unaware that somewhere along the transmission path, their call is converted to “IP protocols”. Yet providers of these services claim that somehow, some way, because a bit of Internet “pixie dust” gets sprinkled on their service, that they should be excused from paying the access charges and universal service contributions that support over half of the cost of connecting rural consumers to the network.

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This “Special Edition” of the Issue Update is the latest in a series of publicly available white papers addressing critical policy issues in the universal service and access reform areas. Previous Special Editions have included *The Coming Train Wreck in Universal Service Funding*, – *Why is it coming, and how do we avoid it?*, and *USF Portability -- Getting it Right*. These white papers, however, are only part of what the Issue Update offers to subscribers. Of particular value to subscribers are the concise summaries that we provide of FCC Notices and Orders, and comments filed by all parties in major FCC proceedings. Subscribers have told us that these summaries save many hours of mind-numbing reading, and provide a valuable tool to follow and understand the fast-moving world of universal service and access reform. To check out what a subscription to the Issue Update offers, and to subscribe, just go to the M&B web site at www.mcleanbrown.com, and click on “Order Your Issue Update”. Complimentary subscriptions are available to government employees, and to educational institutions.

⁶ NTCA ex-parte filing in CC Docket No. 01-92, March 10, 2004 at pages 22 – 23.

⁷ Id at page 1.

Recently there has been the discussion about the existence of multiple service “layers” in the provision of communications services:

- A “facilities layer” composed of the underlying transmission facility;
- A “protocol layer” representing the various protocols used to transmit information over that facility; and
- An “application layer” representing the applications used by end-users to transmit information over that facility.⁸

Applying the existing definitions of “telecommunications services” and “information services”, it is highly likely that some advocates will suggest that services on the facilities layer should be classified and regulated as “telecommunications services”, and those on the applications layer should be treated as unregulated “information services”. It is further likely that those that advocate that services on the applications layer are “information services” will also argue that they should be excused from access charges and universal service contributions, and should be allowed to ride the underlying network for free. It is also likely that they will argue that by relieving them of such “regulatory fees” and “taxes” that their services will be able to grow more rapidly in the marketplace.

This sets up a troubling scenario that will have serious negative consequences for rural consumers if applications providers can indeed ride for free. If the VoIP provider can market a service that appears to the consumer to be equivalent to local phone service, yet bears none of the costs of the underlying network, then it would have a distinct competitive advantage over the facilities-based provider that must incur both marketing and network costs.⁹ Thus, rural network providers face the prospect of not only being deprived of compensation they should receive for usage of their networks, but they also stand to lose significant revenues as consumers shift their business to the provider who gets to ride the network for free. The trouble is that in many rural areas, both providers ride the same network. This poses two problems for rural consumers. First, the rural provider has neither the incentive nor the resources to expand the broadband capabilities of its network. Second, if the facilities-based provider loses so much revenue that it can no longer sustain its network, then consumers are left with no provider who can connect them to the network.

If the goal of ubiquitous, affordable broadband service is to be achieved, network providers need to have both the incentive and the financial ability to invest in and maintain networks in high cost rural areas. Any

⁸ Such a framework was suggested by the FCC in their NPRM on VoIP and IP-Enabled services released March 10, 2004.

⁹ This phenomenon was first observed by Anna-Maria Kovacs of Regulatory Source Associates, LLC.

service providers who use these networks must pay to support the networks on which their services depend. A policy approach that allows some providers to ride for free will result in fewer rural consumers having access to broadband connectivity, and perhaps even the most basic of communication services.

Ongoing Proceedings

How policy makers resolve a number of ongoing proceedings will have a significant impact on the services that rural consumers receive, and their ability to have access to affordable broadband connectivity.

USF Portability

The recently released Recommended Decision of the Federal-State Joint Board on Universal Service signals a welcome realization that prior portability policies were not working to create the public benefits that were originally envisioned. Among the positive changes advanced by the Joint Board are:

- Competition, alone, is not sufficient justification for funding multiple ETCs in rural service areas;
- The public benefits of designating multiple ETCs in rural service areas must clearly exceed the public costs created by supporting multiple networks;
- A carrier that does not currently serve throughout the entire service area must submit build-out plans to do so, and regularly report its progress; and
- Some rural areas are so costly to serve that it is not in the public interest to publicly support two competing carriers.

There are, however, several areas where the Joint Board either ignored critically important issues, or because of their reluctance to take on such issues, adopted policy solutions that will actually harm rural consumers. Such issues include:

- The Joint Board declined to address the manner in which the amount of support that competitive ETCs receive should be determined, and retained the current irrational process of providing carriers that provide different services, using different technologies, over different service areas with the same “per-line” support as the wireline incumbent.
- In order to control the size of the fund, the Joint Board recommended (by a vote of 5 to 3) that support be limited to one “primary line” to each customer’s location; and that the total funding to a rural company service be frozen at the time that the competitive ETC enters the market.
- The Joint Board failed to define exactly what public goal is accomplished with the granting of competitive ETC status.

The most serious failings of the Recommended Decision are its reluctance to take on the issue of the goals that universal service funding is designed to accomplish, and the appropriate amount of funding necessary to accomplish those goals. As stated in the 1996 Act, the goal of universal service is that all consumers in rural, insular and high-cost areas

should have affordable connections to the network¹⁰, and that such consumers have access to advanced telecommunications and information services.¹¹ To accomplish these goals, rural carriers must have the financial ability to support the networks necessary to provide such access, and the investment incentives to provide broadband and other advanced capabilities. Unfortunately, the path that the Joint Board has recommended will achieve exactly the opposite results.

The primary line restriction, coupled with the freezing of per-line support, poses an immediate and serious risk that in many rural areas carriers may be unable to maintain their current networks and invest in advancing broadband capabilities. The current level of USF support is set at the actual cost that the wireline incumbent has incurred to build a network to serve throughout its entire service area. In other words, the current fund is sized exactly to support one wireline network. If that support is divided among two or more carriers, then it is highly likely that no carrier, incumbent or new entrant, would have the financial resources to maintain a viable network to serve throughout the entire service area.

Service providers (wireline and wireless) build networks, not lines. These networks have high levels of fixed costs, and in sparsely populated rural areas both technologies experience costs that increase geometrically as customer density decreases.¹² As a carrier loses lines, their costs do not go down on a per-line basis, and indeed will likely go up. Under such circumstances, customers in the most rural and high-cost portions of the service area may face the prospect of having no provider able to provide them with basic connectivity. This is one of the reasons that the Joint Board states that some rural areas may be incapable of supporting more than one ETC. What is unknown, however, is whether state regulators will actually take this into consideration as they make individual ETC decisions. A second problem that the “primary line” and “freeze on entry” provisions create is a serious dampening of a rural carrier’s incentive and ability to make new investment in broadband and advanced service capabilities.

In considering universal service and portability policies, it is important that policy makers clearly define the goals that they seek to achieve. The current universal service system had its genesis in a desire to develop a ubiquitous, high-quality wireline infrastructure, and in this regard it has been largely successful. It may well be that an equally valid public goal is to develop a ubiquitous wireless infrastructure. If this is the case, then policy makers should evaluate alternative ways to achieve wireless ubiquity, and

determine the most cost-effective way to achieve this goal. It is critical, however, that the amount of funding provided be based on the reasonable cost of the wireless provider to achieve the defined policy goals, and that funding be provided only when public benefits clearly exceed public costs.

There is also discussion in the Recommended Decision that the Commission consider using a proxy model to determine universal service funding in rural areas. In September of 2000, the Rural Task Force found that a proxy model could not be sufficiently precise at the individual wire center level to determine the amount of universal service funding that would meet the “sufficiency” standards of the 1996 Act.¹³ Nothing has changed over the past three and one-half years that would make proxy modeling any more precise. The experience of non-rural carriers with a proxy based system shows some of the potential pitfalls of a rural proxy model. Similar to the TELRIC process, the proxy model provides the same opportunities to employ “limbo-economics” to determine that a lower amount of funding may be “sufficient”. Indeed, the non-rural proxy model and funding process was specifically calibrated so that the total amount of funding to the rural areas of the non-rural companies would be kept very low. Indeed, one needs to look no farther than the deteriorating state of the networks in the rural areas of the non-rural companies to see the fate that awaits rural carrier study areas if policy makers use proxy modeling to control the size of the USF.

The focus of the universal service fund should continue to be on the provision of affordable and advancing connectivity in high cost areas where affordable connections would not exist absent such funding. Thus, the focus should be on supporting the networks and facilities that provide such connections. If a prospective ETC applicant does not serve throughout the service area at the time of its application, then any funding that it receives must be invested in network facilities until it does serve throughout the area. Since application layer providers such as VoIP do not own facilities, they should not be recipients of universal service funding, even though they must be required to contribute to the universal service fund.

To support affordable and advancing connectivity in rural service areas, a rational rural connections policy should accomplish the following:

1. Reject the primary line concept.
2. Provide clear and sound guidelines that state commissions and the FCC can use to determine when individual requests for competitive ETC status are in the public interest.
3. Provide guidance for the identification of areas where the funding of multiple ETCs is not in the public interest.

¹⁰ Section 254(b)(3)

¹¹ Section 254(b)(2)

¹² See Special Edition Issue Update *USF Portability – Getting it Right*, June 25, 2002.

¹³ Rural Task Force White Paper 4, at page 8.

4. Provide ETC funding only in cases where such funding achieves defined policy objectives, and determine funding levels based upon the reasonable costs of each particular carrier to achieve those objectives.

USF Contribution

The FCC currently has an open proceeding to address the collections process through which money comes into the universal service fund. Currently, collections are based upon a percentage of the interstate end-user revenues of all telecommunications carriers. This is causing a number of problems, including the growing inability to distinguish between interstate and intrastate services as IP networks proliferate, and the fact that many carriers offer bundled service offerings including local and long distance calling. The universal service fund is likely to grow as additional ETC applications are approved, and as the current intercarrier compensation regime undergoes reform. It is also possible that the fund could experience additional growth if ubiquitous, affordable broadband connectivity becomes a national goal.

In order for the fund to remain sustainable and achieve its objectives, policy makers must assure the following:

1. The funding base in terms of service providers and services must be as broad as possible.
2. All service providers that benefit from the availability of ubiquitous and affordable network connections must contribute to the fund. This should include both telecommunications service providers and information service providers.
3. All services, telecommunications and information, state and interstate, must contribute on an equitable and non-discriminatory basis.

Inter-carrier Compensation

It is expected that later this year the FCC will initiate a proceeding to examine the current intercarrier compensation systems and develop solutions. As discussed previously, many of the current problems experienced in intercarrier compensation are the result of the current hodge-podge of charging mechanisms. It is clear that some form of unified intercarrier compensation regime is necessary. It is critical, however, that the uniform mechanism have some finite price greater than the "zero" price advocated by the proponents of bill and keep. It is important that this mechanism recognize the higher costs of transporting traffic in rural areas where distances are long and traffic volumes are low, and that it not place undue burdens on rural consumers. Above all, any new intercarrier compensation structure must recognize the needs and cost drivers of a network that will be increasingly packet-based, and provide appropriate incentives for carriers to invest in their networks. As part of this evolution it may be necessary to develop "capacity-based" pricing

alternatives, to traditional methods of charging for usage.

One of the major problems with a bill and keep regime is that it sends the incorrect signal that the switching and transport of traffic are free. As broadband services proliferate and represent a larger share of the traffic on our networks, there will be a need to invest to provide the facilities to handle this increasing traffic load. Particularly in rural areas, unless carriers receive fair compensation for the use of their facilities, the necessary investments may not be possible, and the network could descend into gridlock.

To preserve affordable connectivity in rural America, any revised intercarrier compensation regime must accomplish the following:

1. All carriers that utilize the facilities of rural carriers to originate or terminate their traffic should provide appropriate compensation for the use of such facilities.
2. A unified intercarrier charging structure should be developed that removes the distinction between state and interstate traffic, and charges all users of the network in a consistent manner.
3. To the extent that some portions of the current intercarrier compensation revenue stream are moved to an explicit mechanism, such a mechanism should be available only to providers of regulated access services.
4. The new intercarrier compensation structure should evolve to meet the needs and cost drivers of an increasingly packet-switched network.
5. The new compensation structure should provide incentives for carriers to invest in their networks and provide expanding broadband capabilities.

VoIP and IP-Enabled Services

On March 10, 2003, the FCC released the text of its NPRM to address issues relating to IP-Enabled and VoIP services.¹⁴ As described above, it is critical to the preservation of affordable connections in rural America that VoIP and IP-Enabled services contribute to the universal service fund, and pay appropriate access charges for their usage of the PSTN. Of particular interest is the statement that the FCC makes in paragraph 33 of this Notice:

As a policy matter, we believe that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations, irrespective of whether the traffic originates on the PSTN, on an IP network, or on a cable network. We maintain that the cost of the PSTN should be borne equitably among those that use it in similar ways.

¹⁴ See Issue Update *FCC Issues NPRM Regarding Regulatory Treatment of VoIP and IP-Enabled Services*. March 23, 2004.

The Notice raises questions in a number of areas including:

- How, if at all, should various IP-type services be categorized so that regulation can be applied only where it is appropriate? Among the alternatives that the FCC provides for categorization is the Facilities Layer/Protocol Layer/Applications Layer regime discussed previously.
- What is the appropriate basis or bases for asserting federal jurisdiction over the various categories of IP-enabled services?
- How should various social policy issues such as E911, disability access and universal service be addressed?
- To what extent should access charges apply to VoIP and other IP-Enabled services?
- How will the regulatory classification of IP-Enabled services, including VoIP, affect the FCC's ability to fund universal service?
- For services classified as "telecommunications services" should the FCC use its forbearance authority to remove a particular obligation or entitlement?
- For services classified as "information services" should the FCC use its ancillary jurisdiction to impose a particular obligation or entitlement?

In the debate and comments regarding the treatment of IP-enabled services, there is one thing that must always be kept in mind. As discussed throughout this paper, VoIP and IP-Enabled services depend on the availability of affordable broadband connections and a reliable rural communications network as an integral component of the provision of their services. Unless such services pay their fair share of the costs of maintaining affordable rural networks and connectivity, then they may find themselves like a "train" that has no "track" on which to ride.

Local Number Portability

The FCC has ordered wireline to wireless number portability obligations on all rural carriers beginning May 24, 2004. The RLEC must be prepared to port a requesting customer's traffic even if the wireless carrier has no numbering resources in the RLECs territory, and the RLEC has no interconnection arrangements with the wireless carrier. Because of the large "local" calling areas of the wireless carriers, the RLEC could be stuck with the costs of transporting "local" calls for significant distances with no compensation. These provisions will impose significant network upgrade and transport cost on the RLEC and its customers without any reasonable consideration of whether the public benefits will come anywhere near the significant public cost. In addition, the FCC has chosen not to require wireless to wireline portability obligations at this time. Many rural carriers and their trade associations are seeking intervention to create a more rational and balanced rural competition and portability policy

As discussed throughout this paper, rural carriers face significant challenges in maintaining affordable connections for their consumers as universal service and access charge revenue sources come under attack on multiple fronts. At the same time, rural carriers are hearing calls for universal, affordable broadband availability. The inter-modal local number portability proceeding is one more example of the fact that multiple proceedings are moving independently through the federal policy apparatus without any consideration of what their combined impact would be on these carriers' mandate to provide affordable and advancing network connections to rural America.

Conclusion

Today, the United States enjoys a local telecommunications network that is the envy of the world. All Americans, regardless of where they live, or how costly it may be to serve them are guaranteed affordable access to telecommunications and information service networks comparable to those in urban areas. Decades of enlightened telecom policy at both the federal and state levels have provided support mechanisms that have encouraged local telecommunications providers to invest private capital to assure that everyone is connected to the network, even in areas that could not otherwise economically support such investment. These networks provide a bridge that connects rural America to the rest of the country and to the world. In many cases they provide rural consumers' only access to the Internet.

As documented above, the combined impact of multiple proceedings, each moving independently, have the potential to seriously harm rural consumers. It is critical that policy makers at the highest level "connect the dots" and recognize the critical importance of articulating coordinated policy solutions that assure that Americans in rural, insular and high-cost rural areas continue to participate in the evolving worldwide information marketplace. The common thread is this – service providers whose services use and benefit from rural networks should be required to pay fair prices for their use, and contribute to the universal service funds that allow rural consumers to obtain affordable network connections.

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