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The deal was announced quietly on a Sunday evening: AT&T, the nation's second largest wireless carrier (and largest incumbent telco) hopes to buy Deutsche Telekom's T-Mobile USA, the fourth largest wireless carrier in the US. The deal will likely face regulatory scrutiny from both the FCC and the Department of Justice, and rightfully so. Despite AT&T's rhetoric that this merger will improve network quality and bring broadband to every part of America, the reality is that if this merger is allowed to proceed, the two largest wireless carriers will together have more than 80% market share in a market landscape of already diminished competition. Will AT&T receive the necessary regulatory approvals? AT&T is betting \$3-billion that it will.

Market Share

Combining the second- and fourth-largest wireless carriers would further consolidate market share among the top four carriers, resulting in a "highly concentrated" market as defined by the 2010 revision of the DoJ/FTC *Horizontal Merger Guidelines* (*Views and News*, August 2010), increasing concentration levels so substantially that the merger will be "presumed to be likely to enhance market power."

	YE 2010 Market Share	<i>Pro-Forma</i> Market Share
AT&T Mobility	33%	44%
Verizon Wireless	32%	32%
Sprint	17%	17%
T-Mobile	12%	
MetroPCS	3%	3%
Top 4 HHI Concentration	2521	3280

Note that these are conservative estimates of the HHIs in that they are based upon *national* market shares rather than those applicable in specific geographic areas in which not all of the "big four" may be present.

Pricing and Contract Innovation

T-Mobile has been the only major national carrier to break rank on pricing and contract terms. For example, T-Mobile offers month-to-month service plans at a substantial discount if the consumer brings her own phone or pays full price for a new device. Losing T-Mobile as a competitor leaves MetroPCS as the next largest carrier to

challenge prices and offer attractive non-contract terms and conditions. As we discussed last July, the MetroPCS pricing scheme has not elicited any response from AT&T or Verizon. This is hardly surprising since, while it is growing, MetroPCS today enjoys a national wireless market share of only about 3%.

Monopsony Power In the Handset Market

The combined AT&T/T-Mobile would become the only national carrier using GSM handsets in the US. With nearly 45% market share, AT&T would be in a position to make demands of handset manufacturers. Any GSM handset maker that cannot go along with AT&T's terms would be effectively shut out of the lucrative US market. From the consumers' perspective, if the handset is capable of supporting a feature that AT&T does not wish to offer, it won't be available to consumers in the US.

Wireline Backhaul

While most consumers may see wireless phones as not involving any wireline facilities, the wireless network is critically dependant upon traditional wireline telecom services to carry voice and data traffic from cell site transceivers to the ultimate destination of the traffic. These wired "backhaul" facilities typically consist of high capacity "Special Access" services (e.g., DS-1, DS-3) provided by wireline incumbent local exchange carriers. In most parts of the US, these ILECs are also either AT&T or Verizon affiliates. Special Access services are priced by the local telco at many multiples of cost and typically generate triple-digit rates of return. For AT&T and Verizon, overpricing these services to each other's wireless affiliate is somewhat of a wash – overpayments for out-of-region Special Access services are offset by inflated revenues for in-region services sold to other carriers. But this substantial overpricing raises a major economic barrier to any other wireless carrier that does not itself also own and operate a substantial local wireline telephone business. New entrants would have to overcome this hurdle, and existing wireless-only companies like Sprint could easily be price-squeezed out of the market.

AT&T's \$3-billion Bet

Despite the obvious antitrust and regulatory issues raised by this proposed merger, AT&T appears more than confident that the combination will ultimately be allowed. AT&T has agreed to pay T-Mobile a "merger termination fee" of \$3-billion plus valuable wireless spectrum should the transaction fall apart. The cash portion of the fee alone represents roughly 15% of AT&T's entire profit in 2010, and reflects the confidence with which AT&T is

moving forward. Whether AT&T's confidence that it can "sell" this transaction to the FCC and the Department of Justice will be borne out remains to be seen.

Will consumers benefit from an AT&T/T-Mobile marriage?

AT&T is already hard at work touting the merits of the proposed T-Mobile deal. According to AT&T, the acquisition "provides an optimal combination of network assets to add capacity sooner than any alternative, and it provides an opportunity to improve network quality in the near term for both companies' customers. In addition, it provides a fast, efficient and certain solution to the impending exhaustion of wireless spectrum in some markets, which limits both companies' ability to meet the ongoing explosive demand for mobile broadband." But are these "benefits" worth the diminution of competition in the US wireless market?

Apparently, AT&T will seek to convince FCC and DoJ policymakers as to the merits of this efficiency vs. competition trade-off. Certainly that theory has provided the basis for treating critical economic segments as "natural monopolies" – i.e., that the massive economies of scale and huge capital outlays require a single supplier market model as the only means for achieving minimum average cost. But where competition is inefficient and cannot be relied upon to constrain the market power of a single monopoly provider, we have relied upon regulation to simulate a competitive result.

For nearly four decades, the US and most other industrialized countries have abandoned this "natural monopoly" in telecom, concluding that the dynamic gains in efficiency and innovation resulting from competition easily outweigh the static efficiencies underlying "natural monopoly" regulatory models. But the story that AT&T is now selling reverts back to that outdated static efficiency natural monopoly perspective. AT&T's theory is not compatible with the level of deregulation that the wireless industry currently enjoys. If policymakers are willing to sacrifice competition for static efficiency, then they must also be prepared to sacrifice the deregulation that has been premised upon the existence of that competition.

A new approach to Intercarrier Compensation

Prior to the break-up of the former Bell System (the old AT&T) in 1984, most domestic calls within the United States – local and long distance – were carried, end-to-end, by one or more units of the same parent company. Traditionally, most calls were provided on a "sender-paid" (sometimes referred to as "calling party pays") pricing regime, in which the person who initiates a call pays for the call in its entirety. If a call involved more than one unit of the old AT&T (e.g., a call from New York to Chicago would have been handled by three AT&T units – New York Telephone at the originating end, Illinois Bell at the terminating end, and the AT&T Long Lines Department for the intercity segment), the revenues paid to the originating unit (New York Telephone in this example) would need to be allocated among all three participating units. This was accomplished via intracorporate allocations based upon what was then referred to as the "Division of Revenues Plan."

When the Bell System was dismembered and competition was introduced, first into long distance and ultimately into the local service market, revenue sharing for calls involving more than one carrier could no longer be accomplished through private, intracor-

porate arrangements. To accommodate long distance competition, the FCC in 1984 adopted the so-called "access charge" system, whereby customers paid their long distance carrier for each call they originated, and the long distance carrier, in turn, purchased "switched access services" from the originating and terminating local exchange carriers, thereby effectively sharing the retail long distance revenue among the three, typically non-affiliated operating entities.

With the entry of competitive local exchange carriers (CLECs), some local calls might require the participation of two – or in some cases even three – different LECs. This possibility spawned the need for a mechanism that would permit each of the interconnecting local carriers to also participate in the revenues that had been paid by the originating caller to that person's local carrier. The *1996 Act* required carriers to enter into such interconnection arrangements, and Section 251(b)(5) of the *1996 Act* imposed upon all local exchange carriers "[t]he duty to establish reciprocal compensation arrangements for the transport and termination of telecommunications." CLECs typically established interconnections with the incumbent carrier and not with each other. As a result, calls placed between two CLECs typically require "transit" from one CLEC to the other via the ILEC.

Up to now, the FCC has interpreted Section 251(b)(5) as applying solely to "local" calls. For wireline telephone companies, "local calling area" definitions fall within the jurisdiction of the state PUCs; however, in the case of calls involving at least one wireless phone, the FCC has defined the local calling area for this purpose as embracing entire Major Trading Areas (MTAs), large geographic regions in some cases covering several states. Thus, many calls that are considered to be "toll" or long distance when placed between wireline phones – and thus subject to switched access charges – are treated as "local" if at least one wireless phone is involved, and are subject to Section 251(b)(5) reciprocal compensation.

Access charges were designed to partially replace the long distance revenues that Bell companies (and other ILECs) had been earning prior to the 1984 break-up, and so have no relation to the actual cost of providing the switched access service. Reciprocal compensation, however, falls within the scope of Sections 251 and 252, which require that unbundled network element and interconnection rates be based upon cost, a requirement that has been interpreted by the FCC as set at "Total Element Long Run Incremental Cost" ("TELRIC").

The operative term here is "reciprocal." Interconnecting local carriers must agree to receive and to terminate each other's traffic on an equal and reciprocal basis. If an explicit per-minute call termination charge is adopted, each carrier agrees to impose the same charge to terminate the other's traffic. Alternatively, the carriers could choose to adopt a so-called "bill-and-keep" arrangement, whereby each agrees to terminate the other's traffic without any charge. Where traffic is "in balance" – i.e., where the aggregate volumes of traffic each carrier sends to the other are approximately equal – reciprocal compensation and bill-and-keep produce the same economic outcome (when traffic is in balance, the explicit reciprocal compensation payments cancel each other out). However, when traffic is out-of-balance – i.e., when one carrier sends substantially more traffic to the other than it gets in return – the carrier that is being required to terminate the larger

volume of traffic receives neither cash nor in-kind compensation for its work.

Long before the 1984 Bell System break-up, bill-and-keep was being used routinely by ILECs with non-overlapping service territories (e.g., a Bell and an Independent LEC) because, for the most part, their intercarrier traffic was roughly in balance. However, where an ILEC and a CLEC serve the same or overlapping geography, traffic is often out-of-balance. This is particularly true where the CLEC has elected to specialize in serving certain types of customers, such as Internet Service Providers (ISPs) or other recipients of large volumes of inbound traffic.

Revisiting “bill-and-keep”

In its February 9, 2011 *Universal Service/Inter-carrier Compensation NPRM*, the FCC (at para. 530) asks for comment on the idea of replacing all intercarrier payments with an arrangement that it describes as “bill-and-keep” but which differs somewhat from the traditional understanding of that concept. Seen in the context of “sender-pays” pricing, the traditional understanding of “bill-and-keep” is that the originating carrier (Carrier A) retains all of the revenue it collects from its customer who originates the call, and makes no cash payment to the terminating carrier (Carrier B), the latter being compensated “in kind” when the two carriers’ respective roles are reversed (i.e., when Carrier B sends originating traffic to Carrier A for termination). However, here the NPRM suggests that rather than expect either actual intercarrier revenue or some type of in-kind reciprocal compensation, the terminating carrier would be expected instead to “recover such costs from their own end users.”

The Commission has suggested on a number of occasions – including the present NPRM – that the use of explicit reciprocal compensation payments has created incentives and opportunities for certain providers to engage in “wasteful attempts to game the system [that] will likely persist as long as ICC rates remain disparate and well above carriers’ incremental costs of terminating a call.” While the NPRM calls for carriers to “recover [call termination] costs from their own end users,” nowhere does it suggest how such fundamental revision to “sender-pays” retail pricing might be accomplished. Yet as long as sender-pays pricing is retained at the retail level, what is being described in the NPRM as “bill-and-keep” would, from the perspective of the originating carrier, retain the very same type of disparity between rates and costs, except in the opposite direction – i.e., the now-zero ICC rates would be well *below* carriers’ obviously non-zero incremental costs of terminating a call. If the originating carrier is paid for the entire call, bill-and-keep would still result in “arbitrage” as the FCC uses that term, except this time it would be the originating carrier that is afforded the incentive to game the system: It would collect *and retain* all of the originating revenues from its own customers but could then hand-off the calls to other carriers for termination without any obligation to pay for those carriers’ work – either in cash or in-kind – for completing these calls.

Actual experience with mis-priced call termination rates demonstrates the importance of setting those rates at incremental cost.

In 2001, the FCC defined dial-up calls placed to ISPs as “information access service” and set the intercarrier termination rate for this traffic at \$0.0007 per minute. This was decidedly *not* a cost-based rate; the long run incremental cost of local call terminations, as determined in a number of contested state PUC proceedings at

around that same time, was found to be in the \$0.002 to \$0.003 range. ILECs, whose customers originated most of the dial-up ISP-bound traffic were not required to rate these “information access service” calls any differently from other local calls. They could continue to collect full local call charges from their customers while off-loading those ISP-bound calls to another carrier for completion at a fraction of the incremental cost that the ILECs themselves would have incurred were they to carry that traffic end-to-end, to their own ISP customer. Not surprisingly, few if any ILECs chose to offer inbound ISP call termination services or to aggressively compete for dial-up ISP business. Importantly, nowhere in the FCC’s various observations regarding “arbitrage” is there any suggestion that by not choosing to carry inbound ISP traffic, the ILECs were also engaging in the very type of “arbitrage” that the Commission eschewed. Bill-and-keep, or any intercarrier payment that differs from long run incremental cost, will produce similar inefficient results.

An approach to bill-and-keep that might just work

There are currently several areas in which the type of “bill-and-keep” that the NPRM envisions – i.e., a payment-free exchange of traffic – is currently in use. The two most prominent examples can be found in (1) peer-to-peer exchanges of Internet backbone traffic between participating Internet Backbone Providers (IBPs); and (2) wireless airtime.

IBP networks exchange traffic on a no-fee basis at designated “peering points” within the global Internet. This reciprocal approach to traffic exchange arose without any regulatory involvement or prescription. Each IBP establishes and publishes its own “peering policies” that, if satisfied, would qualify another IBP for participation in the no-fee traffic exchange. While individual IBP policies differ slightly, in general all require (a) that traffic be roughly (although not precisely) in-balance, and (b) that a no-fee handoff would only apply where the traffic is to be terminated on the recipient’s network. If the traffic is destined for another network, the recipient is deemed to providing a “transit” service for which it is entitled to payment. The largest IBPs thus maintain at least one peering point with each of the other major IBPs so as to minimize “transit” situations. These fee-free peering arrangements arose at a time when no individual IBP had a level of market power sufficient to enable it to dictate the terms of traffic exchange to other providers. However, the arrival of massive vertically integrated providers – the Bell companies and the major cable MSOs – is changing the peering dynamic, and not for the good. These large telephone and cable TV companies each serve tens of millions of end-user “eyeballs,” creating for each firm the role of “gatekeeper” for access to their end-user customers. The recent attempt by Comcast to collect fees from Level(3) for the delivery of streaming video traffic to Comcast’s Internet customers may well be a harbinger of things to come, as nonregulated fee-free traffic exchanges head for the dustbin of Internet history.

Wireless airtime is another service for which no intercarrier termination fees are imposed. In the US, wireless airtime charges are incurred by both the calling and called parties. That is, the wireless carrier receives airtime revenue from its own customer, whether that customer places or receives a call. There is thus no need for any intercarrier payment with respect to airtime.

What makes both of these cases unique (insofar as the

applicability of a no-fee exchange of traffic) is that the same revenue arrangement applies at both the wholesale and at the retail level. Retail wireless customers pay for their own airtime. Retail Internet access customers pay for their own bandwidth. Contrast this to the sender-pays retail pricing arrangement that applies to conventional local and long distance calling.

There is, in fact, considerable merit to the idea of fee-free exchanges of intercarrier traffic, because it would eliminate most of the disputes and mispricing inefficiencies that arise under existing reciprocal compensation, access charge, or bill-and-keep regimes. The problem, however, is that in order for these type of fee-free exchanges to take place, it will be necessary to modify the retail pricing regime to conform with wholesale intercarrier relationships.

Sender-paid retail pricing has a long tradition in the telecommunications industry. The sender (caller) is viewed as the “cost-causer” and is expected to pay for the costs being caused by the sender’s decision to originate a telephone call. In the NPRM, the Commission suggests (at para. 525) that “[u]nderlying historical pricing policies for termination of traffic was the assumption that the calling party was the sole beneficiary and sole cost-causer of a call. More recent analyses, however, have recognized that both parties generally benefit from participating in a call, and therefore, that both parties should share the cost of the call.” Whether or not this “assumption” was actually responsible for the “historical pricing policies for termination of traffic,” if it is now to be revised to one in which “both parties benefit,” it is critical that adoption of this new theory be uniformly and comprehensively applied at the retail level as well as with respect to intercarrier hand-offs.

Under this approach, the sender-pays retail pricing regime would be eliminated and replaced by one in which the sender and recipient each pays for usage at each’s end of the call, irrespective of which party had originated the call. And when each retail end user pays his own carrier for his end of the call, there is no longer any need for revenue allocation between the originating and terminating carriers. Under this arrangement, there is no intercarrier compensation, just interconnection. If both ends of the call are on the same carrier’s network – i.e., no intercarrier hand-off – the carrier is compensated for the entire call, except that such compensation is split between the sender and the recipient.

If the retail pricing regime were redefined such that each party always pays for its end of each call (as is the case for wireless airtime and for Internet access), then both carriers would be compensated for their work and balance of traffic would not be an issue. In the Internet world, each customer buys and pays for access and transport into the “cloud” up to a “peering point” where traffic is exchanged with other networks. Some have claimed that this still requires that traffic be in balance, but upon closer examination that is not the case. Each customer (the “eyeball,” the “host”) is responsible for ordering and paying for the bandwidth it needs to carry its traffic, in either direction, to/from the peering point. So while Netflix, for example, receives very little inbound traffic, it sends out enormous quantities of outbound traffic and must pay its CDN or other provider for that bandwidth. At the other end, most consumer end users receive far more traffic (e.g., from Netflix) than they send into the cloud. Consumers must similarly specify and pay for the bandwidth that is sufficient to carry the streaming video or other downlink traffic being sent to them. Assuming that each party pays for the bandwidth it needs, it doesn’t matter whether the respective exchanges of traffic

are in our out of balance.

This arrangement entirely eliminates the perverse incentives that arise when the person who pays for a call does not select the carrier where the call is to terminate. Under the “wireless airtime” model, each party pays for its own originating and terminating usage, and no intercarrier payments are necessary. That same model can – and should – be applied to all types of traffic, voice or data, wireline or wireless, traditional TDM or IP.

A note on flat-rate and reverse-charge pricing.

It is sometimes suggested that where a customer is provided with service that is priced on a flat-rate, unlimited, or “block-of-use” basis, the originating carrier receives no revenue from the calls that such customers originate. But whether billed on a per-minute, per-call, per-month, or any other basis, customers pay for their usage subject to the rate plan that they have selected. If the rate plan does not adequately recover the costs that the carrier incurs in furnishing the service, it is up to the carrier to remedy the shortfall by adjusting its rates or rate structures. Barring that, there is a presumption that customers are being billed and paying for the usage they make of a service.

This new “bill-and-keep” approach has the potential produce an efficient and competitive outcome

What the FCC is proposing is not only a fundamental revision in the approach to intercarrier compensation, but also a major shift in the traditional approach to the retail pricing of telecom services. The requirement that changes be made concurrently both at the wholesale and retail levels may not be practical in the short run, and is certainly at odds with the type of multi-year transition envisioned in the NPRM. However, the rationale for any sort of protracted transition seems driven mainly by universal service considerations and concerns about effecting any abrupt reductions in rural carrier revenue.

Nevertheless, it is essential that the FCC recognize that the use of intercarrier compensation as a device for subsidizing service to rural and high-cost areas is incompatible with deregulatory policies that rely upon competition instead of regulation to constrain incumbent carrier market power. Resolution of intercarrier compensation is long overdue and is critical to assuring the success of a deregulatory and pro-competitive telecom policy. Universal service funding and support for the National Broadband Plan is a separate issue from intercarrier compensation, and the Commission needs to de-link the two (see *Views and News*, February 2011). It needs immediately to address and correct the inefficient and anticompetitive character of existing intercarrier compensation regulations, and accept the fact that any “transition” serves only to protect incumbent carriers.

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