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February 11, 2004

Via UPS Overnight Delivery
Ms. Carole J. Washburn, Executive Secretary
Washington Utilities & Transportation Commission
1300 S. Evergreen Park Drive SW
Olympia, WA 98504-7250

Re: Docket No. UT-033044; Revised Direct Joint Testimony of Megan Doberneck and Michael Zulevic

Dear Ms. Washburn:

Enclosed are the original and 14 copies of the revised Direct Joint Testimony for Megan Doberneck and Michael Zulevic of Covad Communications Company in the above named docket.

Please note that the majority of the revisions are formatting issues. The actual testimony has been labeled Exhibit No.___ (MD/MZ-1T) and each exhibit has been relabeled to reflect the new Exhibit No. 1. For example, the former Exhibit No. 1 is now Exhibit No. ___(MD/MZ-2) and so forth and so on. Consequently, references to all exhibits within the testimony have been changed accordingly.

In addition, note that the December 22, 2003, FCC News Report, now Exhibit No. ___(MD/MZ-8) has replaced the June 10, 2003 FCC News Report (formerly Exhibit No. 7) and the figures from that report have been updated on Page 17 of the testimony.

Please feel free to contact me at (720) 208-2018 if you have any questions.

Very truly yours,

Lynn Hankins

Lynn Hankins, Paralegal

Encls.

Cc: All Parties of Record (w/encls.)

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of Qwest Corporation to Initiate a Mass-Market Switching and Dedicated Transport Case Pursuant to the Triennial Review Order	))))	**Docket No. UT-033044**

DIRECT JOINT TESTIMONY OF

MEGAN DOBERNECK AND MICHAEL ZULEVIC

FILED ON BEHALF OF

COVAD COMMUNICATIONS COMPANY

December 22, 2003

I. QUALIFICATIONS

Q. MS. DOBERNECK, IDENTIFY YOURSELF FOR THE COMMISSION.

A. My name is Megan Doberneck and I am employed by Covad Communications Company ("Covad") as the Vice President of External Affairs for the Qwest region. My business address is 7901 Lowry Boulevard, Denver, CO 80230.

Q. MR. ZULEVIC, IDENTIFY YOURSELF FOR THE COMMISSION.

A. My name is Michael Zulevic and I am employed by Covad Communications Company ("Covad") as the Director of External Affairs for the Qwest region. My business address is 7901 Lowry Boulevard, Denver, CO 80230.

Q. MS. DOBERNECK, PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR JOB RESPONSIBILITES AND EXPERIENCE.

A. As Vice President of External Affairs for the Qwest region, I am responsible for managing the business, regulatory and legal relationship between Covad and its incumbent telephone company vendor, Qwest. I am responsible for ensuring resolution of business issues between the two companies, including driving resolution on operational, OSS, and billing problems and negotiating with Qwest for the purpose of ensuring that Covad can pursue meaningful business opportunities in this market.

Covad is currently providing high speed internet access service using DSL technology in seven of the 14 Qwest states. Covad purchases unbundled network elements from Qwest to provide residential and business DSL services in those states. The team that I manage interfaces with internal Covad groups dedicated to provisioning Covad service.

I hold a Bachelor of Arts degree, *magna cum laude*, from the University of California at Berkeley, with a major in Political Science. I also hold a Juris Doctor degree, with honors, from Columbia University School of Law in New York City, New York. Before joining Covad, I practiced law in Denver with the firm of Faegre & Benson, LLP. Prior to working at Faegre, I practiced law in Washington, D.C. with the firm of Akin, Gump, Strauss, Hauer & Feld LLP. I joined Covad in January 2001 as senior counsel for the Qwest region. In October 2002, I moved to my current assignment with responsibility for the Qwest region.

Q. MR. ZULEVIC, PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR JOB RESPONSIBILITES AND EXPERIENCE.

A: As Director of External Affairs, I am responsible for resolving business issues between Covad and its vendor, Qwest. This responsibility includes driving resolution on operational, OSS, and billing problems, and negotiating with Qwest so that Covad can pursue meaningful business opportunities in this market. I work with Qwest to resolve operational, OSS and billing issues on a business to business level, in the change management process, at industry workshops, and in interconnection agreement negotiations. In working on these issues, I interface with internal Covad groups dedicated to provisioning Covad service, including services using stand-alone loops (2 wire analog and non-loaded loops and T-1 loops), line shared loops and line split loops.

In my position immediately preceding my current role, my responsibilities included the deployment of Covad's line sharing equipment across the country. I was responsible for the architecture negotiations over the first-ever line sharing agreement with U S WEST (or any ILEC, for that matter) in the country. During

the architecture negotiations, I helped to design the network architecture that is now in place. I have also been involved with the network design negotiations with other ILECs, including BellSouth, Verizon, Sprint and SBC.

Prior to joining Covad, I was employed by U S WEST (now Qwest) for 30 years, most recently as Manager, Depreciation and Analysis for the last few years I was employed by US WEST. Prior to that, I worked in Network and Technology Services ("NTS") for several years, providing technical support to U S WEST interconnection negotiation and implementation teams. While working in these two capacities, I provided testimony on technical issues in support of arbitration cases and/or cost dockets in Minnesota, Iowa, Montana, Washington, Oregon, Arizona, New Mexico, Nebraska, Utah, Wyoming, and Idaho. Prior to joining the NTS group, I was responsible for providing technical support for the U S WEST capital recovery program in the areas of switching, transport, and loop. I also worked as a Central Office Technician and Central Office Supervisor at U S WEST.

In addition to the extensive experience described above, I also have worked as a Switch and Transport Fundamental Planning Engineer, where I represented Fundamental Planning as a member of the ONA/Collocation Technical Team; Circuit Administration Trunk Engineer, specializing in switched access services; and Custom Network Design and Implementation Engineer working with the design and implementation of private networks for major customers.

II. INTRODUCTION: PURPOSE AND SUMMARY OF TESTIMONY

Q: WHAT IS THE PURPOSE OF YOUR JOINT TESTIMONY?

A: The purpose of this testimony is to describe why and how there are operational and competitive factors that impair competitive providers in serving the mass market if forced to use UNE-L. We also intend to outline the significant, ongoing operational obstacles Covad faces as it attempts to partner with UNE-P voice providers to offer a bundled voice and data product in Washington. The operational impediments and issues we describe in this testimony are those that must be taken into account when the Commission decides whether competitors really can provide service successfully to the mass market using a UNE-L strategy.

Q. WHAT IS THE GENESIS OF YOUR TESTIMONY?

A. In its Triennial Review Order ("TRO"), the FCC made a national finding that CLECs are impaired without access to unbundled local switching ("UBS") when providing service to the mass market. (TRO, ¶419). The FCC's impairment determination was grounded in economic and operational factors – largely stemming from existing hot cut processes -- that demonstrated, to the FCC's satisfaction, that impairment exists without access to UBS. (TRO, ¶¶461-484). The FCC entertained the possibility, however, that there may be certain situations in particular geographic areas where there would be no impairment without access to UBS. Accordingly, the FCC directed the state commissions, upon petition by a party seeking to overturn the impairment finding, to consider certain economic and operational criteria in determining whether to reverse the national finding of impairment in light of those state-specific factors.

Here, Qwest is challenging the finding that CLECs are impaired without access to UBS. Our testimony is designed to illuminate for the Commission the need to retain UBS unless and until Qwest corrects the operational and competitive

issues that arise in the context of a UNE-L delivery strategy and the associated hot cut procedures that must underlie the UNE-L delivery strategy.

III. UBS IMPAIRMENT AND DATA SERVICES

Q: WHAT ARE THE FACTORS THAT THE FCC IDENTIFIED WHEN FINDING THAT CLECS ARE IMPAIRED WITHOUT ACCESS TO UBS?

A: The FCC described a number of economic and operational factors that create sufficient barriers to entry such that access to UBS is required. In other words, when considering whether CLECs should be required to provide service via a UNE loop (UNE-L) and their own switching facilities, rather than the more operationally efficient and cost-effective UNE platform (UNE-P), which uses the ILEC switch (which is what, after all, this proceeding is about), the FCC identified factors that shed light on whether or not CLECs are impaired without access to UBS. Among other things, the FCC identified Qwest's performance in provisioning loops as a factor impacting the UBS impairment analysis.[1]

Q: WHY SHOULD THE COMMISSION BE CONCERNED ABOUT THE IMPACT ON DATA SERVICES WHEN DECIDING TO RETAIN UBS?

A: There are two reasons why the Commission should take into account the impact on data services when evaluating whether competitors are impaired in serving mass market customers in this state without access to UBS. The first reason is that, in

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[1] Notably, it appears that the FCC did not intend to limit the Commission to looking at just these barriers, since the market definition analysis requires the Commission to look at things like (1) the variation in factors affecting a CLEC's ability to serve each group of customers; and (2) competitors' ability to specifically target and serve markets profitably and efficiently using currently available technologies. Presumably, while the FCC identified a number of "impairment" factors, such factors must also be considered relative to the other factors the FCC identified as being relevant to the definition of the market.

the absence of access to UBS, CLECs can not provide a "line split" DSL service in this state, which means that CLECs will be deprived (assuming line sharing is totally eliminated in three years[2]) of the only economically viable means by which they can provide data services to residential customers. Obviously, if the only choice available to residential customers is ILEC data (or even ILEC data and cable data), the monopoly/duopoly that is created will result in residential consumers paying higher prices for their data services.

The second reason is that, from the viewpoint of what consumers want, CLECs must be able to provide a bundled offering that combines voice service with data service. Absent the ability to provide a bundled service, CLECs will be placed at a clear competitive disadvantage to the ILECs, and also face higher churn rates.

Q: PLEASE ELABORATE ON YOUR FIRST POINT REGARDING THE ECONOMICS OF PROVIDING DATA SERVICE TO RESIDENTIAL CUSTOMERS.

[2] The elimination of line sharing violates the plain terms of the 1996 Act and serves no valid policy, which is doubtless why a number of Commissioners expressed reservations about eliminating this requirement. *See* Exhibit MD/MZ-2 at p. 1 ("I do, however, dissent from the Majority's decision to immediately eliminate line sharing as an unbundled network element. Most of our policies to promote the goals of the Telecommunications Act have produced little yield to date. However, line sharing has clear and measurable benefits for consumers."); *see also* Exhibit MD/MZ-3 at p. 7 ("In the end, however, I cannot join the majority's decision to eliminate line sharing because they have not advanced a clear rationale that overcomes the record evidence that line sharing promotes competition and investment"); *see also* Exhibit MD/MZ-4, p. 2 ("I would have preferred to maintain this access … known as line sharing.").

A: It is beyond dispute that, right now, the sole vehicle for the provision of residential DSL services is via a line shared or shared loop arrangement. This is true whether you are talking about incumbent or competitive providers. Simply put, given the economics of serving the residential market, the only cost-effective way to provide residential DSL service is via a line sharing (CLEC) or shared loop (ILEC) product arrangement.

The numbers bear out the fact that, to date, line sharing is the only way residential customers receive(d) DSL service. There was no competition to provide DSL service before the FCC's line sharing rules allowed new entrants to deploy competitive broadband technologies. *See In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provision of the Telecommunications Act of 1996*, Third Report and Order, 14 FCC Rcd. 20,912, ¶¶32-33, 40 (December 9, 1999). Because of the billions of dollars invested by data CLECs relying on line sharing, residential DSL service grew over *5000 percent* in three years, from an initial 115,000 lines, to over 6.5 million lines at the end of 2002. The FCC's own studies show that for every line shared DSL line, ILECs responded by deploying four retail DSL lines. *See* Exhibit MD/MZ-5.

Despite this evidence, the FCC determined that CLECs are not impaired without access to the line shared loop, and instructed them to undertake the transition of the line shared loop customer base by the end of three years to alternative arrangements – either to provide DSL over the entirety of the unbundled loop or to partner with other voice CLECs and provide voice and data over a "line split" loop. *See* TRO, ¶¶258-59. Obviously, because of the

economics of providing data service as discussed above, the only way a CLEC can economically provide data services to residential customers, after line sharing is presumably phased out, is via line splitting, since the cost structure for line splitting is identical to that of line sharing.[3]

Q. WHAT IS THE DIFFERENCE BETWEEN A "LINE SHARED" LOOP, A "LINE SPLIT" LOOP, AND A "LOOP SPLIT" LOOP?

A. Line sharing is the arrangement in which the ILEC (Qwest) provides the end user with Qwest retail voice service, and a data CLEC (Covad) provides the end user with DSL service, using a single 2-wire loop to the customer premises. Line splitting is an arrangement in which a voice CLEC (e.g. AT&T or MCI) using UNE-P partners with a data CLEC (Covad) to provide the end user with a bundled voice and data service, again using a single 2-wire loop to the customer premises. Loop splitting is similar to line splitting, with one minor difference. Loop splitting is an arrangement in which a voice CLEC (e.g. AT&T or MCI) using UNE-L partners with a data CLEC (Covad) to provide the end user with a bundled voice and data service, again using a single 2-wire loop to the customer premises with the dial tone, or voice service, coming from the CLEC switch. In all three arrangements, the voice is transmitted over the low frequency portion of the loop and data service is provisioned over the high frequency portion of the loop.

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[3] *See* Testimony of K. Malone, May 21, 2002, at pp. 75-76, in *In the Matter of the Commission's Review and Investigation of Qwest's Unbundled Network Element (UNE) Prices,* PUC Docket No. P-421/CI-01-1375; OAH Docket No. 12-2500-14490-2, ("In one of the orders in this particular case we were asked to provide application or rate elements for line splitting. So this is just in response to that, saying that the rate elements would be the same as line sharing, and the line sharing rates have been previously approved in an earlier docket.").

Q: HOW DOES LINE SPLITTING RELATE TO UBS?

A: Line splitting, which is virtually technically identical to line sharing, involves the provision of voice service by a competitor over the UNE-P. If there is no UBS, there is no UNE-P and, hence, no line splitting. So, following that logic to its conclusion, in the absence of UBS, CLECs will be unable to economically provide a residential DSL product, competitive forces will cease to exist in the residential market, and residential DSL rates will go up.

Q: PLEASE ELABORATE ON YOUR SECOND POINT REGARDING THE IMPORTANCE OF CLEC ABILITY TO OFFER BUNDLED SERVICES.

A: The future of voice competition in the Washington mass market hinges upon the ability of competitors to provide a bundled voice and data product—via line splitting—in competition with the voice and data bundles currently being provided by Qwest. Currently, Qwest's discriminatory line splitting ordering and migration operations and OSS in Washington constitute a barrier to entry, and almost certainly guarantee that competitors cannot profitably offer line splitting in Washington. Ensuring that Qwest's line splitting operations and OSS are both adequate and nondiscriminatory is an essential predicate to Washingtonians receiving the benefits of competition in the growing market for bundled voice and data products. Because Qwest does not currently have operations and OSS to adequately support line splitting ordering and migrations, or UNE-P line splitting to UNE-L loop splitting ordering and migrations, CLECs are impaired without access to line splitting over UNE-P.

Q. WHY DOES THE FUTURE OF VOICE COMPETITION IN THE MASS MARKET HINGE UPON THE ABILITY OF COMPETITORS TO

PROVIDE A BUNDLED VOICE AND DATA OFFERING VIA LINE SPLITTING?

A. The rapid transition from separate, standalone voice and data services to one, singled bundled voice and data service cannot be seriously disputed. Newspaper articles, analyst reports and carrier advertisements regularly tout voice and data bundles as the "next wave." For example, J.P. Morgan Securities, Inc. reports that "By 2006, we expect that half of all consumers will be taking a bundle in some form or another from an ILEC or an IXC [CLEC]," and that "over 50% of customer[s] [will] purchase[s] bundled services from a single carrier by 2006." *See* Exhibit MD/MZ-6 at pp. 11 and 1.

Moreover, J.P. Morgan further reports that:

> The market for broadband Internet access is expected to balloon over the next several years, as customers continue to migrate from dial-up service and first-time users sign up for Internet service. We estimate that current penetration, at 10% of households, is expected to rise to roughly 30% by 2006, with DSL capturing roughly a third of this growing market.

Id., p. 6. Thus, J.P. Morgan reports that "while most DSL customers are currently on standalone service plans, over the next several years, we expect to see penetration of bundled offerings for DSL customers to rise significantly." *Id.*, p. 12. Accordingly, J.P. Morgan predicts that by 2006, 55% of all DSL will be bundled with voice offerings. *Id.* at Table 3.

Q. ARE THE ILECS BUNDLING VOICE AND DATA SERVICES?

A. Yes. In a section of the report entitled, "ILECs Bundle to Defend Their Crown Jewels – Local Voice," J.P. Morgan reports that "ILECs are reciprocating by bundling their local and long distance services together with DSL and wireless in

an effort to both drive greater penetration of these services, but more importantly, defend their market share of the large and highly profitable local voice segment of the industry." *Id.*, p. 10.

Q. WHAT BENEFITS HAVE BEEN IDENTIFIED BY CARRIERS WITH RESPECT TO PROVIDING CONSUMERS WITH VOICE AND DATA BUNDLES?

A. SBC has been the most open about the advantages entailed by providing a bundled offering. During its 2003 Analyst Conference presentation, SBC noted the increased revenue derived from voice and data bundling. *See* Exhibit MD/MZ-7. In addition, SBC noted that DSL "drives even lower access-line churn and higher ARPU as share increases." *Id.*, p. 4. Most importantly, particularly when we consider the impediments facing CLECs on the churn front, SBC reported that churn is reduced by 61% if the customer obtains local voice and DSL from SBC, and that churn is reduced by 73% if the customer obtains local voice, long distance voice, and DSL from SBC. *Id.*, p. 6.

IV. INADEQUACY OF, AND DISCRIMINATION IN, QWEST'S LINE SPLITTING OSS AND PROCESSES

Q. DESCRIBE WHY QWEST'S LINE SPLITTING PROCESSES GENERALLY ARE INADEQUATE AND DISCRIMINATORY.

A. Before a data CLEC can submit a new UNE-P line splitting order with Qwest (i.e., the addition of data to the UNE-P), the corresponding voice order must already be completed by Qwest. Unlike Qwest's Retail arm, competitors cannot bundle voice and data easily via line splitting because two (2) orders must be submitted, rather than simply one (1) order as Qwest does. The CLEC data order cannot be

submitted until the voice order or migration is complete and the customer service record (CSR) is updated in Qwest's systems, which can take anywhere from three to five days. Qwest's Retail arm, on the other hand, takes one order to manage the entire process. In addition, Qwest requires that the LSRs be submitted using the customer of record's account thus requiring the DLEC to have system log in for every CLEC with whom it partners. Thus, even if UBS is retained in this state, it is imperative that Qwest be required to correct these ordering and provisioning problems. That is to say, Qwest must be required to allow CLECs to order line splitting via a single order that provisions the voice and data simultaneously so that CLECs can compete successfully with Qwest in providing service to residential customers in this state.

Q. ARE QWEST'S LOOP SPLITTING PROCESSES AND OSS ANY BETTER?

A. No. Just like UNE-P line splitting, before a data CLEC can submit a new loop splitting order with Qwest (i.e., the addition of data to the UNE-L), the corresponding voice order must already be completed by Qwest. Again, unlike Qwest's Retail arm, competitors cannot bundle voice and data easily via loop splitting because two (2) orders must be submitted, rather than simply one (1) order as Qwest does. The CLEC data order cannot be submitted until the voice order or migration is complete and the CSR is updated in Qwest's systems, which, as I stated earlier, can take anywhere from three to five days. Qwest's Retail arm, on the other hand, uses one order to manage the entire process. Thus, even if UBS is retained in Washington state, it is imperative that Qwest be required to correct these ordering and provisioning problems. That is to say, Qwest must be required

to allow CLECs to order loop splitting via a single order that provisions the voice and data simultaneously so that CLECs can compete successfully with Qwest in providing service to residential customers in Washington.

Q. AREN'T THERE PENDING CHANGE REQUESTS ("CRs") THAT MIGHT ALLEVIATE THESE ORDERNIG ISSUES?

A. We are doubtful that the systems CRs necessarily will correct these problems, or at least correct these problems in a timely fashion.[4] Qwest informed CLECs at the most recent change management forum that it will only support 2 IMA releases next year (as opposed to three in years past) and that those releases will be issued in April and October 2004. Qwest is also reducing by 40% the development hours allocated to the IMA releases so that, instead of having 120,000 hours available, Qwest is only willing to allocate 70,000 hours.

The ramifications of Qwest's decision to reduce in number and size its IMA releases for 2004 are two-fold. First, it is uncertain whether the systems CR that would allow a CLEC to place voice and data for a UNE-P line splitting order simultaneously will actually be put into place. More problematically, the systems CR that would allow a CLEC to place voice and data orders for UNE-L loop splitting is still under discussion. So, in addition to whether the reduction in hours will result in this CR being excluded from any of the 2004 IMA releases, it is

[4] The ability to order line splitting and loop splitting on a single LSR basis originally was scheduled to be included in the IMA 13.0 release on August 4, 2003. Per an "event notice," however, this ability was delayed for several months, and is currently tentatively targeted for the IMA 15.0 release. Notably, however, despite the delay in allowing CLECs the ability to order line splitting and loop splitting on a single LSR, the ability on Qwest's part to place a single order to provision DSL and voice to a Qwest retail customer was included in that August 13.0 release.

virtually certain that it will not make it into the April IMA release since the parties have not even completed discussion on this CR.

Notably, even though Qwest (assuming it is successful in reversing the impairment finding) would have to have in place all the necessary systems and processes for UNE-L loop splitting by July 2004, it likely will not have the UNE-L loop splitting CR in place, and probably won't have the UNE-P line splitting CR in place, until at least October, which reflects a minimum of a four-month delay in implementing all changes required as a result of the TRO -- to the detriment of CLECs.

Q. SO QWEST'S OSS WILL ENSURE THAT CLECS USING EITHER A UNE-P OR A UNE-L DELIVERY STRATEGY WILL BE AT A COMPETITIVE DISADVANTAGE TO QWEST?

A. Absolutely. The time delays and associated service disruptions that are inherent in the current UNE-P line splitting and UNE-L loop splitting OSS and processes will result in CLECs being a "day late and a dollar short."

V. LINE SPLITTING MIGRATIONS AND THE QWEST HOT CUT PROCESS

Q. PLEASE DISCUSS THE HOT CUT ISSUE.

A. A "hot cut" describes the cut-over of a working loop from one carrier's switch to another carrier's switch with little to no disruption of service. Today, hot cuts are ordered primarily by voice carriers. As it pertains to the TRO, the FCC required ILECs to implement "batch" hot cut processes that will efficiently and economically allow the mass migration of existing customers from one switch to another, the mass installation of new customers on a carrier's switch, and the

associated daily churn volumes that are inevitable in any market. (TRO, ¶¶ 487-490.)

Q. DESCRIBE WHY HOT CUTS FOR VOICE AND DATA ARE IMPORTANT TO CONSUMERS.

A. All customers will want a seamless migration of voice *and* data services should the need arise to convert from UNE-P line splitting to UNE-L loop splitting. Customer expectations with respect to migrating data services are the same as customer expectations regarding migrating features or functionality. UNE-P line splitting customers who find themselves involved with a conversion to UNE-L will demand, and rightfully so, to have both voice and data migrated with minimal interruption. As such, CLECs are impaired as a result of Qwest's lack of an efficient line splitting migration processes.

Q. QWEST'S HOT CUT PROCESSES FOR UNE-P LINE SPLITTING TO UNE-L LOOP SPLITTING ARE INADEQUATE, AREN'T THEY?

A. Customers enjoy the benefits of competition by changing providers to obtain the best services at the lowest prices. An efficient OSS and supporting processes allow customers to quickly and inexpensively change providers by allowing CLECs to submit a single order to migrate an end user from one voice and data arrangement to another. However, Qwest currently has no migration process in place for a single order UNE-P line splitting to UNE-L loop splitting conversion for individual customers. So, today, the only way to transfer just one customer from a UNE-P line splitting to UNE-L loop splitting arrangement is to first, submit an order to cancel the UNE-P line splitting arrangement and, second, resubmit a new order to install a new UNE-L line splitting arrangement. Other than the

obvious issue of having to submit two orders, this scenario also causes extended interruptions to the end user's data services and it is doubtful that Qwest could handle the commercial volumes transacted in today's UNE-P environment. So, what we see is a "process" that is not in place, is not efficient, and certainly does not permit a "hot" conversion from UNE-P to UNE-L. Even on a single order basis, therefore, there are severe operational impediments that place CLECs at a competitive disadvantage to Qwest because of the necessary disruption to service, with consequent customer loss, when converting from UNE-P to UNE-L.

Q. ARE THE PROBLEMS WITH THE MIGRATION PROCESS YOU DISCUSS ABOVE RESOLVED IN ANY WAY BY THE QWEST BATCH HOT CUT PROCESS?

A. No. And, in fact, the problems are even more significant when looking at Qwest's supposed batch hot cut process. In light of the potential conversion of numerous customers from UNE-P to UNE-L, the capability of the Qwest systems and procedures to support existing, new, and churn hot cuts for all services actually or sought to be provided is of paramount importance if a UNE-L strategy is to be used successfully by CLECs. Already, after the first Batch Hot Cut Forum in Denver on December 1-3, 2003, it is clear that Qwest is not willing (and therefore probably unable) to design, implement, and support an adequate batch hot cut process.

First, Qwest has made clear that it will not include data services in the hot cut scenario. Specifically, Qwest has stated that it will not include any lines currently involved in line sharing or line splitting arrangement, and has strictly limited the types of services that can be migrated via a batch hot cut.

Qwest's processes, unfortunately, assume a homogenous customer base -- that is, a customer base in which no one wants or needs data. We know, however, that the demand for data services, and particularly DSL service, has skyrocketed. For instance, in the FCC's broadband report of December 22, 2003, the FCC reported that ADSL high speed lines grew by 19% in the first half of 2003, with the full year's increase being 50%. ADSL advanced service lines grew by 16% during the first half of 2003, with the full year's increase being 37%. From a total numbers perspective, the number of ADSL lines increased in the first half of 2003 from 6.5 million lines to 7.7 million lines. *See* Exhibit MD/MZ-8, pp. 1-2. And in the state of Washington, 45% of consumers who have high speed internet access have that access as a result of a line shared DSL service. *Id.* at Table 7. Clearly, therefore, hot cut processes that are so specifically designed to undercut competitors' ability to provide service to an aggressively growing customer base is outright anti-competitive and nothing more than a thinly veiled attempt to knee-cap competitors attempting to provide comparable service offerings.

Second, Qwest has also stated that it will not support CLEC to CLEC migrations unless such migration can be accomplished without a truck roll and there are no other anticipated problems. Obviously, if Qwest will not support that kind of hot cut, then it is impossible for consumers to easily and quickly migrate service from one competitor to another. If the UNE loop to the customer's premise is to be truly portable so that consumers can quickly, easily, and without disruption change their service providers, the Commission must require Qwest to include data and CLEC to CLEC migrations in its hot cut scenarios.

These two limitations clearly demonstrate that Qwest's hot cut processes are designed to substantially eliminate the number of customers eligible for a batch hot cut from Qwest to CLECs or from CLEC to CLEC – which is an anachronistic result when considering that the FCC instructed ILECs to improve their hot cut processes in order to eliminate the operational and economic impediments to successful use of a UNE-L delivery strategy. Consequently, either UBS must be retained in this state because impairment so obviously exists, or Qwest should be ordered to design, implement and successfully test hot cut processes that include both data services and CLEC to CLEC migrations.

Q. WHY IS QWEST'S EXCLUSION OF DATA FROM THE BATCH HOT CUT PROCESS UNREASONABLE?

A. Qwest claims that significant efficiencies would be lost if data services were included, thus resulting in a more expensive process and associated higher rates. In reality, the inclusion of data really only means that Qwest would have to make one additional cross-connect in the central office. This additional work, and any cost associated with it, is more than outweighed by the economies of scale and reduction in costs associated with a batch hot cut process. More importantly, when evaluating whether there is any merit to Qwest's claim about increased costs, it is important to keep in mind that the additional activity required to include data is the direct result of a Qwest decision that is out of step with what the other ILECs have done. That is, had Qwest made the decision to use the same OSS for the provisioning of UNE-P as for UNE-L, as most other ILECs have done, the migration from line splitting to loop splitting could be accomplished by removing and replacing a single cross-connect. In any event, the inclusion of data in the

batch hot cut process would require a minimal amount of additional work. One additional cross-connect would need to be placed and a data continuity test would have to be performed -- all of which would take place in the central office by one or two technicians. These are not significant work functions and should not be used as an excuse for the exclusion of data migrations.

Q. WHAT ADDITIONAL PROBLEMS DO YOU SEE WITH QWEST'S PROPOSED BATCH HOT CUT PROCESS?

A. Qwest explained that the cost reduction anticipated by its proposed batch hot cut process is based on the elimination of both pre-wiring and pre-testing of the lines to be cut. The removal of these steps makes no sense, particularly for Mr. Zulevic, given his many years of involvement with large customer hot cuts. In fact, the performance of these functions in advance decreases the amount of time taken on the day of cut as potential day-of-cut problems can be addressed in advance and worked in conjunction with the normal work process. By not doing the pre-test and pre-wiring, the only thing that will be ensured is that adverse customer impacts will be commonplace. Qwest's advocacy for removing these two essential steps is totally without merit as the end result will be to add cost and negatively impact the CLEC customer.

Q: YOU'VE DISCUSSED THE OPERATIONAL ISSUES ASSOCIATED WITH QWEST'S LINE SPLITTING AND LOOP SPLITTING MIGRATION PROCESSES. ARE YOU ALSO ADDRESSING COST ISSUES?

A. Not specifically at this time (although we have addressed some of the cost-related issues raised by Qwest in its attempt to eliminate data from the hot cut process).

However, we reserve our right to comment on the cost of the hot cut processes once we have seen Qwest's final BHC proposal and the associated proposed rates.

Q. WHAT CONCLUSIONS SHOULD THE COMMISSION DRAW FROM YOUR TESTIMONY?

A: The ultimate goal of competition is to give customers choices of providers, innovative services, and competitive prices. Qwest's current "process" for UNE-P line splitting customers to UNE-L loop splitting customers ensures a difficult, if not horrific, customer service experience. Unless Qwest develops, tests, and implements a process to perform hot cuts to migrate efficiently and economically a UNE-P line splitting arrangement to a UNE-L loop splitting arrangement, Covad and its voice partners are impaired with access to UBS. Accordingly, until this Commission approves a hot cut and batch hot process for voice plus data loops that is sufficient to eliminate such impairment, unbundled local switching for the mass market customers cannot be eliminated as a UNE when UBS is used to provision a line splitting arrangement. Indeed, if the Commission were to eliminate CLEC UNE access to UBS before resolving all the provisioning and hot cut problems described in our testimony, CLECs' ability to provide Washington consumers with competitive voice and data services would cease.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. This concludes our Direct Testimony, however, we anticipate filing all responsive testimony permitted by the Commission, and being presented for cross examination at the hearing on the merits.

Separate Statement of Chairman Michael K. Powell
Dissenting in Part

Re: *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No.96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147).*

Today, the Commission concludes one of its most significant proceedings ever. The Triennial Review has been a complicated and difficult undertaking, but one that will set critical parameters for competition and broadband deployment for years to come. There are some immensely important achievements in this Order that have long been objectives of mine—namely, substantial broadband relief. Yet, regrettably, there are some fateful decisions as well, which I believe compromise some important principles to which I adhere unwaveringly. To those, I must respectfully dissent.

I begin with the momentous step we take today to create a broadband regulatory regime that will stimulate and promote deployment of next generation infrastructure, bringing a bevy of new services and applications to consumers. I have long stated that broadband deployment is the most central communications policy objective of our day. Today, we at last put some substance into that stated goal. I am proud to say that today we take some vital steps across the desert from the analog world to the digital one. Today's decision makes significant strides to promote investment in advanced architecture and fiber by removing impeding unbundling obligations. The digital migration journey is one step further along.

I do, however, dissent from the Majority's decision to immediately eliminate line sharing as an unbundled network element. Most of our policies to promote the goals of the Telecommunications Act have produced little yield to date. However, line sharing has clear and measurable benefits for consumers. It has unquestionably given birth to important competitive broadband suppliers. That additional competition has directly contributed to lower prices for new broadband services. By some estimates, 40% of DSL providers use line shared inputs. The decision to kill off this element and replace it with a transition of higher and higher wholesale prices will lead quite quickly to higher retail prices for broadband consumers.

I also believe the argument that removing line sharing is a form of positive regulatory relief to stimulate broadband is ill-conceived. Line sharing rides on the old copper infrastructure not on the new advanced fiber networks that we are attempting to push to deployment. Indeed, the continued availability of line sharing and the competition that flowed from it likely would have pressured incumbents to deploy more advanced networks in order to move from the negative regulatory pole to the positive regulatory pole, by deploying more fiber infrastructure. This decision actually diminishes the competitive pressure to do so.

Today, we also issue a very important further notice on our "pick and choose" rule and tentatively conclude that it should be eliminated. This is an important and underappreciated step. The pick and choose rule has in many ways undermined the goals of the Act by squelching any incentive to reach commercially negotiated terms and conditions, which Congress hoped would eventually overtake the heavier handed regulatory process for developing terms and conditions of commercial arrangements. I look forward to completing that proceeding. I now turn to the majority's decision on switching, which I cannot in good conscience support.

Switching

In opening this proceeding, this Commission committed itself to conduct a thorough review of its unbundling policies. This review took on greater importance in light of a slumping telecommunications sector and the D.C. Circuit's *USTA* decision vacating the rules that unbundled each element of an incumbent's network. Thus, the Commission was charged with reconstructing its list of unbundled elements from the ground up. As we have endeavored to do so, the most controversial judgment rested with the switching element. The importance of this element is not in its particular functionality, but that it represents the capstone of what has become known as the unbundled platform. If switching is available, it is very likely a carrier can resell the entire incumbent's network, at heavily subsidized rates, set by regulators, without having to provide much in the way of its own infrastructure.

A Retreat from Facilities-based Competition

The Majority apparently is a big fan of UNE-P, because it has contorted the letter and spirit of the statute and the court's interpretation of our responsibilities in an effort to ensure its indefinite preservation. What is remarkable about today's decision is that one looks in vein to find a clear or coherent federal policy in the choices made by the majority.

Consistently underlying my preferences in this area is a commitment to promote and advance facilities-based competition that is meaningful and sustainable, and that will eventually achieve Congress' stated goal of reducing regulation. The benefits of such a policy are straightforward: Facilities-based competition means a competitor can offer real differentiated service to consumers—the switch is the brains of one's network and to be without one is to be a competitor on life support fed by a hostile host. Facilities-based competitors own more of their network and can control more of their costs, thereby offering consumers real potential for lower prices. Facilities-based competitors offer greater rewards for the economy—buying more equipment from other suppliers (like Lucent, Corning and Nortel) and creating more jobs (the reason CWA supports such a course). And, facilities providers create vital redundant networks that can serve our nation if other facilities are damaged by those hostile to our way of life.

Some on this very panel have talked glowingly about facilities-based competition, but when one reviews this *Order* one will ask "where's the beef." Today's decision clearly steps back from a pro-facilities policy, by favoring extensive regulatory management of incumbent networks to supply the competitive market. More distressing than giving facilities providers the back of their hand, I see no meaningful federal policy put in its place, other than vague and solicitous pronouncements about the states playing the lead role in making these determinations and a commitment to "competition," no matter how anemic. Congress demanded the Commission not be so passive and demur when it vested it with responsibility for the unbundling regime.

Legal Peril

I also dissent from the switching section of this *Order*, because I find a Commission majority for the third time in seven years substituting its preferences for a heavily permissive unbundling regime for Congress's judgment that no element should be provided unless the Commission can affirmatively conclude that a competitor is impaired without it. The Supreme Court admonished that the FCC had to put forth a meaningful limiting principle in making its decisions. The Commission's second attempt also failed, when the D.C. Circuit vacated our rules last summer. The court emphasized that the Commission could not treat unbundling as an unqualified good and had to consider the social costs as well. It also admonished that the standard employed and applied by the FCC had to demonstrate that a typical entrant was effectively prohibited from entering the market due to barriers associated with the monopoly power of the incumbent and not just typical start up costs or costs naturally associated with entry. Today, the majority flouts the D.C. Circuit mandate.

The legal errors of today's decision are many to my mind, but I emphasize a few of the most egregious. First, the majority places switching on the list without making an affirmative finding of impairment based on a thorough analysis of sufficiently granular criteria. Cleverly, they state only a presumption that there is impairment that can subsequently be addressed by state commission proceedings to either defeat the presumption and take switching off the list, or affirm it and leave switching on the list. Remarkably, however, the national rule requires the switching element on little more than a presumptive intuition and even fails to really apply the Commission's own articulated impairment standard. I believe this to be reversible error.

Moreover, the majority delegates its own responsibilities under the statute to the states, but fails to invoke any meaningful limiting principles in doing so. States are free to add or subtract elements at will. The majority does provide a laundry list of micro-economic criteria that a state may consider, but the list is not exhaustive and states are free at bottom to do what they choose. State decisions are unreviewable by the Commission.

This *Order* is legally suspect if for no other reason than it is nearly identical at its core to the ill-fated *UNE Remand Order of 1999*. In substance and in spirit it endeavors again to reverse the presumptions of the statute by treating unbundled switching as an

unqualified good that should be provided by an incumbent to an entrant, unless the incumbent proves that the "presumption" of impairment is unwarranted. I think this basic paradigm turns the statute on its head and flies in the face of the Court's ruling.

Bad for the Market and bad for the economy

I believe this decision will prove too chaotic for an already fragile telecom market. In choosing to abdicate its responsibility to craft clear and sustainable rules on unbundling to the State Public Utility Commissions the Majority has brought forth a molten morass of regulatory activity that may very well wilt any lingering investment interest in the sector. And, I fear as much or more for CLECs as I do ILECs, for the prolonged uncertainty of rights and responsibilities may prove stifling.

The nation will now embark on 51 major state proceedings to evaluate what elements will be unbundled and made available to CLECs. These decisions will be litigated through 51 different federal district courts. These 51 cases will likely be decided in multiple ways—some upholding the state, some overturning the state and little chance of regulatory and legal harmony among them at the end of the day. These 51 district court cases are likely to be heard by 12 Federal Courts of Appeals—do we expect they will all rule similarly? If not, we will eventually be back in the Supreme Court of the United States to resolve any conflicts—the same Court that vacated our excessively permissive unbundling regime in 1999. This process will take many years and will hardly be the quieting and stabilizing regime that was so craved by a rocky market.

I also believe that under this decision there will be other negative consequences for the economy. I fear we will see more job loss as carriers cut their capital expenditures and refuse to move forward with new investment and growth against this Picasso-esque regulatory backdrop. I can only imagine how a business plan gets written by a CLEC hoping to enter the local market, not knowing now and not likely to know for years what they will ultimately be entitled to and for how long.

Harmful to Consumer in the Long-run

This decision also could prove harmful to consumers in the long-run, and I cringe to see their welfare raised on the staff of the majority's decision. Make no mistake, UNE-P may have very limited merits as a transitional strategy, but it is fatally flawed as sustainable local competition. This is not the low lying plateau on which the high aspirations of the 1996 Act should be planted. It is a model that only works if hundreds of stars align perfectly and stay that way. Every state needs to continue to make every last element available. Every decision to do so must be sustained by every court that examines it. The FCC must never tamper with it and Congress better not ever alter the rights. The regulatory arbitrage bubble expands ever more perilously with each regulatory variable and is sure to eventually pop, like dot coms of old, if government policy does not diligently steer the balloon to stable ground.

"States Rights"

To explain their decision, the majority has cloaked itself in the drape of "State's Rights." (a classic conservative mantra not generally associated with a majority of democrats). This is a trivial misuse of a cherished constitutional precept. Congress has established a federal statute and federal policy to promote competition. Even the majority concedes that it is delegating federal authority to state offices and not intruding on the traditional general police powers of a state that normally comprise its constitutional "rights." Justice Antonin Scalia, whose credentials are unchallenged as a leading voice for states' rights himself eloquently quashed this peccadillo in *Iowa Utilities*. It is worth repeating:

> [T]he question in these cases is not whether the Federal Government has taken the regulation of local telecommunications competition away from the States. With regard to the matters addressed by the 1996 Act, it unquestionably has. The question is whether the state commissions in the administration of the new *federal* regime is to be guided by federal-agency regulations. If there is any 'presumption' applicable to this question it should arise from the fact that a federal program administered by 50 independent state agencies is surpassing strange. . . This is, at bottom, a debate not about whether the states will be allowed to do their own thing, but about whether it will be the FCC or the federal courts that draw the lines to which they must hew.. . .To be sure, the FCC's lines can be even more restrictive than those drawn by the courts—but it is hard to spark a passionate 'states rights' debate over that detail.

I could not agree more.

I emphasize, however, that I do see the implementation of this statute as a state/federal partnership. States are given control over the rates set for unbundled elements, but it is principally the obligation of the FCC to determine what those elements will be, faithfully implementing the impairment clause. States can assist in that effort, but our responsibilities should not be released to them.

I must also note that the impulse to leave much more telecom policy to state commissions may run against the winds of technological change. Communications is converging, distance is fading as a meaningful construct in an internet, cyber-space world, mobility is ascending. These are the circumstances that necessitate, at a minimum, a coherent national framework of rules. States can play important roles in such a regime, but I am of the view that primacy must rest with the national government.

Conclusion

There are great strides being made today in the march of Digital Migration, which realize some of my most important objectives. I am disappointed, however, by today's decision on UNE-P. Nonetheless, it is the fair result of a democratic institution in which majority rules. I also recognized that State PUCs will now have an enormous task before them and I sincerely wish them the very best as they struggle through what the FCC

could not. I pledge to work with them in partnership to yield the best result for the nation. And, I sincerely hope that those carriers who fought so fiercely for this result will now prove their value in the marketplace and actually deliver the local competition, lower prices and more innovative services that they insisted they would if they prevailed. I, for one, will be watching. This has been a tough proceeding, but I look forward to getting it behind us and moving to other matters pressing for the Commission's attention.

PRESS STATEMENT OF COMMISSIONER KATHLEEN Q. ABERNATHY

Re: Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability; and Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, CC Docket Nos. 01-338, 96-98, 98-147 & 02-33, Report and Order (adopted Feb. 20, 2003).

This has been a grueling proceeding for everyone involved, and I am relieved that we have finally come to closure. I am pleased to support many aspects of this Order. Most importantly, I strongly support the Commission's decision to exempt new broadband investment from unbundling obligations. We have taken bold action to restore incentives for carriers to build next-generation fiber-based facilities that will support a host of exciting new broadband applications. I am also pleased that the item ensures that facilities-based carriers will have access to the critical loop and transport elements they need to compete, and I support the further notice seeking comment on proposed modifications of the pick-and-choose regime.

I am deeply troubled, however, by the majority's resolution of the fate of unbundled switching, or UNE-P. The decision to make only vague presumptive findings on switching impairment and to delegate virtually unlimited discretion to state commissions abdicates our statutory responsibility. This approach is also inconsistent with the goals of promoting regulatory certainty and facilities-based competition. As I made clear upon coming to the FCC, I am guided by several core principles, and at the top of the list are (1) adhering to the text and structure of the Communications Act, (2) relying to the greatest extent possible on market forces rather than heavy-handed regulation, and (3) promoting regulatory clarity and certainty. The majority's approach to switching violates each of these principles. I am therefore forced to dissent from the switching section of the item. I also dissent from the majority's decision to eliminate line sharing.

I elaborate below on the two most pressing issues in this proceeding: broadband loops and unbundled switching, and I explain my reasons for dissenting from the line sharing decision.

Broadband Loops

One of the 1996 Act's most important mandates, and accordingly one of my core goals as a Commissioner, is to facilitate the deployment of broadband infrastructure. The key question posed in this proceeding is *how* we should accomplish that end. The answer, in my view, is to remove regulatory obstacles to deployment and thereby ensure that network owners have adequate incentives to make the costly and risky investments needed to deliver broadband to all Americans.

As in most important debates, no one side has a slam-dunk argument. And the stakes could hardly be higher: While the FCC has been pondering these issues, capital expenditures have fallen off a cliff. Carriers and equipment manufacturers alike have laid off thousands of workers, and bankruptcies have become commonplace. Despite our historical global leadership in communications technology and deployment, several other countries now surpass the United States in terms of broadband penetration and performance. American service providers and equipment vendors have been forced to slash research and development budgets and this trend is not easy to reverse.

Faced with this situation, the Commission is forced to balance two sometimes competing goals in the statute: preserving carriers' incentives to invest in new facilities, on the one hand, and providing competitive access to incumbents' networks, on the other. I believe that the balance we strike should vary with the degree of new investment at issue. At one end of the spectrum is fiber-to-the-home (FTTH) investment, which entails a complete replacement of legacy facilities (or entirely new construction in greenfield situations) and thus imposes immense costs and risks on incumbents as well as new entrants. The Order accordingly refrains from unbundling these new FTTH facilities. At the other end of the spectrum is existing copper plant. Granting competitors access to copper loops or to the high-frequency portion of the loop (line sharing) in my view does not create any real disincentive to invest, because the loops in question already exist and the electronics used to provide line sharing already have been exempted from unbundling. As discussed below, I therefore believe that the majority should have preserved our line sharing requirements.

The most significant debate centered on how to handle hybrid fiber/copper loops, where the incumbent deploys a next-generation digital loop carrier (NGDLC) architecture. These hybrid situations contain a mix of legacy plant and new broadband investment. I am persuaded that the best approach, which we have adopted today, is to preserve existing access rights but refrain from imposing new unbundling obligations on upgraded hybrid loops. Specifically, competitive carriers will have voice-grade access to upgraded fiber, as well as access to spare copper loops and copper subloops. In addition, competitive LECs will retain the very same access to high-capacity loops (DS-1s and DS-3s), subject to the impairment analysis set forth in the order, that they have today. Preserving this access is a critical measure to preserve competition in the enterprise market. At the same time, refraining from unbundling newly deployed packetized channels over fiber will give incumbent LECs increased incentives to make their networks capable of delivering broadband to many more Americans.

I fully agree with the argument that competitive pressures are necessary to spur investment by incumbent carriers. But granting unbundled access to new broadband networks would be an empty gesture if it meant that such networks were never built in the first place. The record suggests that the uncertainty regarding possible broadband unbundling obligations has chilled investment substantially.

I am therefore heartened by the FCC's decision to provide significant regulatory relief for new broadband investment. I firmly believe that this decision, in due time, will

bring consumers the benefits of increased investment and innovation — which translates into better, faster, more robust services. I also believe that consumers will benefit from broadband competition — both intermodal (from cable modem, satellite, and wireless broadband providers) and intramodal (from competitive LECs using their own facilities and incumbents' loops and subloops). And because the telecom sector has become such an important driver of overall fiscal health, I expect that regulatory relief for broadband will serve as a much-needed stimulant to the economy.

Unbundled Switching (UNE-P)

While I enthusiastically support the decision to remove regulatory obstacles to broadband deployment, I am deeply disappointed by the Commission's resolution of the unbundled switching (UNE-P) issue. Rather than conducting the kind of impairment analysis mandated by the statute and the courts, the Commission has essentially washed its hands of the issue, delegating virtually unbounded authority to state commissions to make their own impairment findings. Rather than creating a clear and predicable regulatory environment, this decision will engender litigation in each of the 50 states and leave all carriers — whether CLECs or ILECs — guessing about what their rights and obligations will be in the years to come. And rather than promoting facilities-based competition, this decision creates the possibility that UNE-P will remain ubiquitously available indefinitely, despite powerful record evidence demonstrating that competitors can serve customers using their own switches in many (if not most) areas.

I fully agree with the majority that state commissions are our partners in implementing the 1996 Act. But the Act itself spells out the terms of this partnership, and the majority ignores the congressional framework. The Act unequivocally directs this Commission to "determin[e] what network elements should be made available." 47 U.S.C. § 251(d)(2). By contrast, Congress assigned the states responsibility for approving interconnection agreements, mediating and arbitrating disputes, and setting rates for unbundled network elements, among other things. 47 U.S.C. § 252. I also agree that once the FCC imposes limitations, it may appropriately delegate some authority to state commissions to make more granular findings regarding impairment. To remain faithful to the statutory scheme, however, the FCC must retain the *primary* decisionmaking authority, and we must establish *clear* standards for the states to apply. Our test for unbundled transport, for example, generally establishes that impairment exists on a route that is served by fewer than two wholesale providers or three total providers. The states will play an important role in carrying out this standard, but the critical fact is that this Commission has established a clear, economically justified, and predominantly federal framework. With respect to switching, by contrast, the Commission has neither justified the vague impairment presumptions it makes nor provided a meaningful framework to cabin state discretion.

It is no answer to claim that the Commission is unable to provide clarity regarding switch impairment. The record demonstrates that competitors have widely deployed circuit switches — over 1,300 in all — in most areas of the country. More than 200 competitive LECs have their own switches. They primarily serve business customers, but

a number serve residential customers as well, in spite of the lower margins available. While reasonable minds can differ about the appropriate conclusions to draw from the record, and line-drawing is undoubtedly difficult, the Commission was bound to make *some* effort to analyze the data on switch deployment and alleged impairments. For example, the Commission could have made impairment findings based on wire center density, drawing on the analysis of carriers such as WorldCom and SBC.[1] We alternatively could have focused on a threshold number of switches deployed in a LATA or wire center — an approach backed by two respected former Chairpersons of NARUC's Telecommunications Committee.[2] Another approach would have made UNE-P available as an acquisition tool to give competitors a limited period to aggregate a base of customers before transitioning to UNE-L, in order to mitigate costs associated with individual hot cuts and customer churn. Any of these approaches also would have given the state commissions a significant supervisory role in ensuring that the hot cut process would not create an operational or economic impairment. I worked hard to develop proposals incorporating these ideas to ensure that the federal standard addresses potential impairments associated with the UNE-L entry strategy. I also made clear my eagerness to explore other compromise proposals advanced by outside parties and my colleagues. The one thing I was *not* willing to do — which unfortunately is what the majority has done here — was to shirk our statutory obligation to decide the circumstances in which unbundled switching will be available.

Over the past several months, when asked about this rulemaking, all of my colleagues have invoked the mantra of "regulatory certainty." We have called for creating a more stable and predictable regime that will allow service providers to craft long-term business plans and enable investors to make rational decisions. Having worked for both a CLEC and an ILEC, I am well aware of the costs associated with an uncertain regulatory climate. Unfortunately, the majority's decision to refrain from adopting a concrete standard for unbundled switching is the exact opposite of what the telecom economy needs. By prolonging the uncertainty indefinitely, I fear that this Order will deal a serious blow to our effort to restore rational investment incentives. While the President and Congress are striving to provide an economic stimulus, the majority unfortunately has stymied that effort.

Simply spelling out the framework of the majority's approach to switching demonstrates the lack of clarity and direction. While lawyers will thrive in this environment, the carriers will become mired in a regulatory wasteland. The majority declares that competitors are presumptively impaired without access to ILECs' switches,

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[1] *See* Letter from Gil M. Strobel, Lawler, Metzger & Milkman (Counsel to WorldCom), LLC, to Marlene H. Dortch, Secretary, FCC (Jan. 8, 2003) (arguing that, if certain operational impediments were addressed and WorldCom were given time to build market share, it could pursue a UNE-L strategy in larger wire centers (e.g., those with 25,000 or more lines)); Letter from James C. Smith, SBC, to Chairman Michael K. Powell (Jan. 14, 2003) (arguing for finding of non-impairment in wire centers with 5,000 or more lines).

[2] *See* Letter of R. Steven Davis, Qwest, to Chairman Michael K. Powell (Jan. 30, 2003); Joint Statement of Bob Rowe, Chairman, Montana Public Service Commission, and Joan Smith, Commissioner, Oregon Public Utility Commission (Jan. 30, 2003).

but it fails to elucidate the precise nature of this impairment. The majority then directs state commissions to *consider* a list of potential impairment factors, to make their own largely subjective judgments about how to weigh them, and ultimately to decide whether the impairment is of a permanent nature or rather can be alleviated by restricting UNE-P availability to three-month intervals. If (and only if) states decide to limit UNE-P in some areas, the embedded base of customers would be transitioned over a three-year period. In short, neither incumbent LECs nor competitive LECs have a clue about the markets in which unbundled switching will be available on a going-forward basis. Rather than developing sound business plans in response to the Commission's decision, carriers will spend the next several years in litigation before the state commissions and in the federal district courts.

In addition to jettisoning the principle of regulatory certainty, the majority's decision tramples on the goal of promoting facilities-based competition. While this has been a watchword for most of my colleagues, now that we had an opportunity to translate our words into action, the majority shied away from doing so. The majority instead has established a regime under which UNE-P may remain permanently available in all markets. Moreover, by inviting states to give added weight to whether a certain number of switches have been deployed by CLECs, the majority's decision seems to give CLECs a *dis*incentive to invest in their own switches — for doing so could jeopardize the continued availability of UNE-P and the premium margins it affords.

A further source of concern — and additional uncertainty — is the significant prospect that the majority's approach will not survive judicial scrutiny. As noted above, section 251(d)(2) directs *the FCC* to apply the impairment standard, and the Supreme Court has confirmed the Act's shift of ultimate authority and responsibility to the federal jurisdiction. As Justice Scalia's opinion for the Court in *Iowa Utilities Board* made clear, "the question . . . is not whether the Federal Government has taken the regulation of local telecommunications competition away from the States. With regard to matters addressed by the 1996 Act, *it unquestionably has*."[3] Indeed, in considering the appropriate role for the states, the Court opined that the notion of "a federal program administered by 50 independent state agencies is surpassing strange."[4] The majority perhaps could have shored up its sweeping grant of authority to the states by establishing a right of appeal to the FCC, so that the ultimate decisionmaking authority resided here. But it refused to do even that. And while the majority relies on the ability of incumbent LECs to pursue appeals in federal district court under section 252(e)(6), it remains to be seen how a reviewing court can gauge a state's compliance with the federal regime when the FCC has refused to provide any specific guidance on what that regime should be.

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[3] *AT&T v. Iowa Utils. Bd.*, 525 U.S. 366, 378 n.6 (1999) (emphasis added). The Act expressly preserves state authority to adopt local competition regulations, but only to the extent that such regulations are "consistent with the requirements of [section 251] and [do] not substantially prevent implementation of the requirements of [section 251] and the purposes of [Part II of Title II]." 47 U.S.C. § 251(d)(3).

[4] *Iowa Utils. Bd.*, 525 U.S. at 378 n.6.

An equally significant legal vulnerability is that the majority makes no real effort to adopt a meaningful limiting principle regarding switch unbundling. The Commission has twice been reversed on this exact ground, and I fear this may be strike three. The Supreme Court and the D.C. Circuit have made clear section 251(d)(2) permits the Commission to unbundle an element only when we can affirmatively justify doing so. Turning this mandate on its head, the majority declares that switching will be unbundled because they cannot rule out that some impairments may exist. In fact, the majority does not even make a concrete finding of impairment to justify its requirement that switching be unbundled; instead, the majority *presumes*, without any clearly articulated basis, that competitors are impaired nationwide in the absence of unbundled switching, subject only to the caveat that state commissions may, based on their consideration of various nonbinding factors, convert the permanent availability of UNE-P to a temporally limited access right. The majority makes no attempt to square its decision with the record evidence showing extensive switch deployment by competitive LECs, including a number of carriers serving mass market customers on a UNE-L basis. While states *may* limit the availability of switching in such circumstances, the fact that they are under no obligation to impose any limits whatever (and are not subject to Commission review) makes that an illusory constraint. Making matters worse, the Commission, without any coherent explanation, has abandoned its previous constraint on access to unbundled switching — namely the three-line limit in the top 100 MSAs adopted in the *UNE Remand Order*. It is especially hard to see how *expanding* the availability of unbundled switching, without any affirmative justification, comports with the *USTA* decision.

For all these reasons, I am forced to dissent from the Commission's decision to order the unbundling of switching without applying the impairment standard.

Line Sharing

Finally, I also dissent from the majority's decision to eliminate line sharing. This is a close call, but, on balance, I believe that line sharing provides substantial procompetitive benefits without unduly constraining investment by incumbent LECs. Unlike the prospect of unbundling fiber-to-the-home loops or NGDLC systems, the record suggests that line sharing spurs ILEC investment in DSL, rather than retarding it. The reason is that, by definition, line sharing is available only over legacy copper loops — there is simply no loop upgrade that incumbents are deterred from making. Thus, as we weigh the goals of competitive access and promoting investment in new facilities, the balance favors reinstatement of a line-sharing obligation.

I am certainly mindful of the arguments against line sharing. For example, cable modem providers, rather than DSL providers, currently lead the broadband marketplace, making a line sharing obligation somewhat incongruous. Moreover, data LECs arguably can obtain an entire unbundled loop and provide a combination of voice and data service, as the incumbent LECs do. Yet I believe that the Commission could have overcome these arguments: The presence of cable in the broadband market does not seem sufficient to support a finding of non-impairment for telecommunications carriers seeking to provide DSL service. Moreover, I am sympathetic to the argument that a carrier should

not be forced to enter the voice telephony market simply to provide competitive DSL service.

As noted above, this is not an easy issue. In the end, however, I cannot join the majority's decision to eliminate line sharing because they have not advanced a clear rationale that overcomes the record evidence that line sharing promotes competition *and* investment. In fact, I fear that this decision will compromise our efforts to spur broadband deployment, because the decline in intramodal competition will ease pressures on incumbents to invest in upgraded facilities. I am also troubled by the majority's decision to establish a three-year transition period for the elimination of line sharing. I believe that the majority should own up to the fact that, by cutting off data LECs' access to line sharing, it has shut down residential broadband competition over the copper loop. Any talk of a glide path is fanciful, because, in all likelihood, there will regrettably be no providers left to participate in a transition three years from now.

* * *

In conclusion, the Order is a decidedly mixed result in my view. It scores a big win for consumers by promoting broadband investment, but it potentially undermines that victory by turning unbundled switching into a regulatory morass that carriers will be stuck in for years to come. I therefore voted to approve in part and dissent in part.

PRESS STATEMENT OF
COMMISSIONER MICHAEL J. COPPS,
APPROVING IN PART, CONCURRING IN PART, DISSENTING IN PART

Re: Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers

Seven years ago this month, Congress enacted a sweeping reform of our nation's telecommunications laws. In doing so, it sought to promote competition in all telecommunications markets and to replace the heritage of monopoly with the vitality of competition. Provisions to open the local markets to competition are at the heart of this Congressional framework. The Act contemplates three modes of competitive entry into the local market – construction of new networks, use of unbundled elements of the incumbent's network, and resale. The competition envisioned in the legislation is now, and only now, becoming a reality. Today, because of the vision of Congress and the hard work of American entrepreneurs across the country, there are 20 million competitive lines serving consumers, and the number continues to grow in spite of the severe economic downtown that the telecommunications industries, and the nation, have suffered. This Triennial Review offered us the opportunity to encourage this competition and to fulfill the mandate of the law, which is "to secure lower prices and higher quality services for American consumers."

In some ways, today's action advances that mandate. We preserve voice competition in the local markets and we allow it to grow. We accord the states an enhanced role in making the granular determinations about where the rules of the game may need to be changed and where they should be maintained in order to foster competition. One month ago, these gains were not expected.

In other and equally important ways, however, we fail our charge. Some competitive strategies are harmed by today's decision and, I believe worst of all, we are playing fast and loose with the country's broadband future, denying it the competitive air it needs to breathe in order to flourish. Consumers and the Internet itself may well suffer.

Today's item is not the one that I would have written had I been given *carte blanche*. Each of my colleagues could make the same statement. I have agreed to join certain decisions that are not my preferred outcome in an effort to find compromise and to avoid even more damage to the competitive landscape. I appreciate the willingness of my colleagues to engage in these discussions to find common ground. There are, however, aspects of this Order with which I cannot agree. As I reviewed the decisions we make today, I have tried always to keep in mind that setting competition policy is the exclusive jurisdiction of Congress. I have done my utmost to remain faithful to the public interest and to the competitive framework that Congress adopted in the 1996 Act. Where I am unable to square a decision with the statutory directives, I am compelled to dissent.

Permit me to highlight a few of the most important issues.

On the positive side, in the face of intense pressure for the Commission to make broad nationwide findings on impairment -- findings that would have doomed the future of unbundled elements such as switching -- we have instead managed to cobble together a majority for a more reasonable process to conduct a granular analysis that takes into account geographic and customer variation in different markets. We have recognized that the States have a significant role to play in our unbundling determinations. We have understood in many parts of this Order that the path to success is not through preemption of the role of the States, but through cooperation with the States. State Commissions with closer proximity to the markets are often best positioned to make the fact-intensive determinations about impairments faced by competitors in their local markets. I am therefore pleased with our decision that States should have an active part in conducting the granular analysis necessary to determine whether and where network elements such as switching should be available as unbundled network elements.

On transport, I believe the item is significantly improved from where it might have been. Dark fiber remains on the list of network elements; limitations on high-capacity transport were done in a manner that was responsive to the facilities-based competitors' concerns; and transport is not removed without a specific finding on a route, rather than based on some notion of contestability in the market.

There are aspects of this Order that are certainly not my preferred approach, but which I have had to accept in order to reach compromise. In particular, there is the decision to eliminate access to only part of the frequencies of the loop as a network element. I would have preferred to maintain this access, also known as line sharing. I believe that line sharing has made a contribution to the competitive landscape. Instead of recognizing this contribution and encouraging it, we provide today only an extended transition period to allow competitors to purchase the entire loop facility as a network element, or to pair with a voice provider, to offer the full range of services to a customer.

Finally, there are parts of this Order with which I strongly disagree. Most importantly, I am troubled that we are undermining competition, particularly in the broadband market, by limiting -- on a nationwide basis in all markets for all customers – competitors' access to broadband loop facilities whenever an incumbent deploys a mixed fiber/copper loop. That means that as incumbents deploy fiber anywhere in their loop plant -- a step carriers have been taking in any event over the past years to reduce operating expenses -- they are relieved of the unbundling obligations that Congress imposed to ensure adequate competition in the local market. The Commission has recognized time and again that loops are the ultimate bottleneck facility. Yet, this Commission has chosen in this instance to perpetuate the bottleneck, and it does so on a nationwide basis without adequate analysis of the impact on consumers, without analyzing different geographic or customer markets, and without conducting the granular, fact-intensive inquiry demanded by the courts. To make matters even worse, in some markets such as the small and medium business market, there may not be any competitive alternatives if competitors cannot get access to loop facilities.

I fear that this decision may well result in higher prices for consumers and put us on the road to re-monopolization of the local broadband market. Additionally, I worry about the negative impact of this decision on facilities-based carriers which are practicing the kind of competition we all talk about encouraging. They face enough challenges in these difficult economic times without having us add to their burdens.

A word to the wise: Other decisions are hurtling towards us. As harmful as this decision is, it may not be the last battle this year in the headlong rush to deregulate broadband. In a few short months, maybe sooner, we will consider whether to deregulate broadband entirely by removing core communications services from the statutory frameworks established by Congress. Opponents of this change argue that this is substituting our own judgment for that of the law, and playing a game of regulatory musical chairs by moving technologies and services from one statutory definition to another. We will also consider whether large incumbent carriers providing broadband services should henceforth be regulated as non-dominant, or lacking market power, rather than dominant and exercising market power. In light of our goals of establishing certainty and stability, I hope we would proclaim today that we will not overturn these unbundling obligations in those proceedings over the next few short months. But I caution that it could indeed happen.

It is no secret that some parties urged us to go much further today toward a wholesale upending of the current telecommunications landscape just when competition was beginning to take hold. Instead of preserving, protecting and defending competition, their idea seemed to be tearing away the infrastructure that undergirds that competition. Today's decision is not just a big-ticket item for telephone companies on one side or another of some admittedly arcane issues. It affects us all. It's next month's phone bill, but it's also the next generation's broadband and the future of the Internet. It will deeply affect our country's future. We've got to make good, smart decisions. On broadband, at least, we haven't done this.

I am also worried about process here. Seven years ago, when Congress passed the landmark Telecommunications Act, the Commission implemented its regulatory directives in a bipartisan fashion by unanimous vote, reaching consensus under extremely short statutory deadlines. Today, by contrast, we adopt one of our most important decisions to date by a split decision plagued by shifting pluralities. I am disappointed that we were not able to reach compromise on all of the questions and issue a unanimous decision as previous Commissions were often able to accomplish. Perhaps, given the different philosophical and regulatory approaches which exist among us, that just wasn't in the cards here. Nevertheless, I believe we have some lessons to learn about smoothing the process within, exchanging ideas and paper earlier on, and making sure we have enough time to reach and hammer out final agreements. I also believe that the constraints placed upon Commissioners by laws that forbid more than two of us from meeting together, talking together and reaching agreement together hobble the regulatory process and retard our ability to tackle complex proceedings like this one. I don't know of any other institution that is forced to operate this way. Maybe the ability to manage our discussions differently would not have rescued this item, but I do think it could make a

difference going forward. And we have a lot of work to do going forward. One item that requires our immediate attention is performance metrics. Ideally, a decision on this would have preceded today's decision, so that incumbents and competitors alike would know what is expected of them regarding the now fewer regulatory requirements they must meet.

In light of the positive and negative parts of today's decision, I vote to approve in part, concur in part, and dissent in part. Although the bottom lines have been decided, the devil is more often than not in the details. I am unable to fully sign on to decisions without reservations until there is a final written product. As we finalize the draft in the coming days, I hope all of the agency's resources will be working towards implementing the majority opinion on all aspects of the Order so that it can withstand the inevitable litigation that is sure to follow. If we do not dedicate all our resources to perfecting this Order, we will be vulnerable to the accusation that we are throwing up our hands and expecting the courts to step in. That's not good government.

The FCC Team has an uncommonly high share of bright, talented and dedicated people - among the country's best, inside or outside of government. I want to thank Bill Maher and his team for their tireless efforts and for the dedication exhibited by the Wireline Competition Bureau staff throughout this proceeding. I'd like to thank each member of the team individually because I know how hard they worked and how late they burned the midnight oil. Most of all, I want to thank my Senior Legal Adviser, Jordan Goldstein, for the endless hours, the encyclopedic knowledge and invariably good judgment he brings to all these issues. For his work here, he deserves both a Silver Star and a Purple Heart.

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Communications Daily

The Authoritative News Service of Electronic Communications

MONDAY, OCTOBER 20, 2003 VOL. 23, NO. 202

Today:

Other States Move

ME. EXAMINER SAYS TRO STAY DOESN'T STOP 90-DAY PRELIMINARIES

Some states continued to move ahead while incumbent telcos, CLECs and their attorneys attempted to straighten out the legal tangle over whether a federal appeals court in N.Y. had the legal authority to issue its temporary stay of the FCC Triennial Review Order (TRO) presumption that unbundled switching wasn't necessary for effective local competition in the enterprise market.

A hearing examiner for the Me. PUC concluded that the Oct. 9 stay order by the 2nd U.S. Appeals Court, N.Y., didn't preclude the state from determining whether it wanted to challenge the FCC on local unbundled enterprise switching in the large business market. The FCC had given state commissions until Dec. 30 to decide whether they would challenge that presumption in their markets, but the 2nd Circuit's stay order left states in confusion. The examiner (Case 2003-629) said the stay might preclude the PUC from proceeding with the substantive analysis of enterprise switching required by the TRO, but didn't prevent the state from determining whether it should hold a 90-day enterprise proceeding. The examiner said CLECs still must file by Oct. 21 on whether they wanted to contest the FCC's presumption.

viewed as a threat to freedom of speech," he said. But he said that at the same time "national security or crime control can easily serve as a pretext for repressive governments to curtail press freedom." — ***Mary Greczyn***

COMM DAILY® NOTEBOOK

The Congressional Black Caucus (CBC) sent a letter to Senate Judiciary leaders opposing the nomination of a judge to the U.S. Appeals Court, D.C., which handles many communications issues. The CBC said Cal. Supreme Court Justice Janice Rogers-Brown had a record unfriendly to civil rights that demonstrated "her disdain for settled legal precedent." The CBC letter, dated Oct. 17, was sent to Senate Judiciary Committee Chmn. Hatch (R-Utah) and ranking Democrat Leahy (Vt.). The NAACP and People for the American Way also have also opposed her nomination.

WIRELINE

FCC Chief Economist Simon Wilkie told a conference Fri. that the line-sharing regime being phased out by the Commission had been notable in bringing about competitive and consumer gains. A CLEC representative in the audience called the comment "a bombshell," but Wilkie had prefaced his comments by explaining he wasn't speaking for any commissioners or staff and was speaking "from a purely economic view." Wilkie spoke at a Georgetown U. forum that brought together Wilkie and 8 former FCC chief economists to get their views on Commission regulatory actions. Wilkie told the group that line sharing had resulted in "dramatic price reductions and dramatic jumps in DSL deployment." For every DSL line shared, the ILECs deployed 4 DSL lines of their own, he said. The decision to phase out line sharing, which was done as part of the Triennial Review Order, was viewed at the time as being part of a compromise among commissioners that had little support from most of them.

Industry comments on whether the FCC should retain the "pick-&-choose" rule were predictable: In the comments filed Oct. 16, CLECs urged the agency to retain it; ILECs said it should be eliminated. The rule allows CLECs to opt into parts of interconnection agreements that Bells have negotiated with other CLECs. The rule tends to stymie the give and take of negotiations, BellSouth said. Congress envisioned "genuine commercial negotiations" between carriers but the pick-&-choose rule has deterred that because of the possibility that other carriers can opt into parts of the contract. ALTS said the rule shouldn't be changed because "the ILECs still wield monopoly control over essential, bottleneck facilities and insurmountable bargaining leverage over their wholesale clients, who also happen to be their chief rivals for end-user retail customers." ALTS said "abandonment of, or otherwise altering, the pick-&-choose rule would allow ILECs to negotiate sweetheart deals with preferred carriers and structure those contracts in such a way as to prevent other carriers from opting into them." Mpower, a CLEC which 2 years ago proposed an alternative to the pick-&-choose route, said the telecom market still isn't competitive enough to drop pick-&-choose in favor of its Flex Contract proposal. Mpower told the FCC it dropped its petition earlier this month because "given telecommunications market conditions, adequate market incentives do not exist for its Flex Contract proposal to succeed." The Ohio PUC said it agreed with the FCC that the rule "could stifle innovation and flexibility for the provision of interconnection services... In addition to generating significant disincentives and intransigence on behalf of the ILEC not to make any concessions to accommodate a particular CLEC need or situation, the current rule could also work to the detriment of a [CLEC] that entered into the initial contract by providing subsequent carriers with competitive advantages. That is, since the CLEC entering into the original contract with the ILEC most likely compromised on some issues to gain some ILEC concessions, a new competing carrier could enter the same market and take advantage of the ILEC concession without entering into the same obligations as the original competing carrier." The PUC said the solution was to give states the authority to determine when a provision could be made available to another carrier: "A contract should only be made portable in similar situations and markets as determined by the individual state commissions." On the other hand, the Cal. PUC said it didn't think "modification of the existing pick-&-choose rule is warranted at this time" because at least in Cal. it "has worked quite well in providing the incentive and impetus for CLECs to enter into interconnection agreements with an ILEC in order to compete in local markets." Without the pick-&-choose option, "smaller carriers would likely adopt the 'one-size-fits-all' standardized agreement and then be compelled to incur the substantial cost of negotiation and/or arbitration for the customized provisions that they would require," the Cal. PUC said. — ***EH***

Reps. Terry (R-Neb.) and Stupak (D-Mich.) chastised the FCC for failing to significantly reform a provision of the universal service fund (USF) Thurs. (CD Oct 17 p4). In response to a 10th U.S. Appeals Court, Denver, ruling, the FCC directed state regulators to compare rural rates with urban rates and sought comments on rate reviews. The "nonrural" fund — $234 million for Bells and other large ILECs to serve rural customers — has come under criticism because only states receive any funding, much of which goes to BellSouth. Miss. gets the lion's share with $120 million. Terry and Stupak are the principal sponsors of legislation (HR-1582) designed to reform the distribution formula to be based on

National Journal's TECHNOLOGY daily

1 of 1 results | | Back to Results List

10-21-2003

Telecom: FCC Economists Await Clearer View Of Telecom Act's Impact

A group of FCC economists last week said they are still unsure whether the 1996 Telecommunications Act has promoted competition and reduced prices and regulation.

The act is a failure, according to FCC Chief Economist Simon Wilkie, who stressed on Friday at a Georgetown University Business School forum that the disclaimer about those views being his own "applies with more than the usual force."

The goals of reducing regulation and of cable and telephony services competing "hammer and tongs" are both failures, and the industry that has emerged is entirely different than what was envisioned, Wilkie said.

Competition that is based on companies having their own telecom facilities rather than the major companies sharing their networks with competitors is "the path to reducing regulations," Wilkie said. But allowing the regional Bell companies into the long-distance telephone business is not the right incentive for competition, he added, because that market already was competitive.

However, the competition goals may be falling by the wayside, according to Michael Riordan, the FCC chief economist from 1997-1998 and currently a professor at the Columbia University business school in New York. He sees a shift in policy at the agency away from the goals of competition to the goals of lower prices and higher quality service.

Riordan also argued that it is too soon to judge the success of the act. Because of the myriad court challenges that created regulatory uncertainty, the act was not in effect in earnest until recently, he said. "It is implausible to think three years is enough time to earn a rate of return on a significant investment."

Wilkie said the act did produce "two clear areas where we have significant welfare gains" -- decreases in consumer prices and deployment of high-speed Internet service.

For example, for each line-shared digital subscriber line for broadband

service, the Bells deploy four more lines, Wilkie said, noting that such competition produces "unambiguous consumer gains you can quantify." Companies such as Covad Communications use the existing telephone line, tapping into it to provide broadband service.

FCC Chairman Michael Powell believes in the benefits of line sharing, voting against phasing it out when the commission decided new telecom rules this year, but a source familiar with the record noted that there is evidence for and against it.

However, the act was not necessary for line sharing to develop, Wilkie said, noting that another set of FCC rulemakings known as the "computer inquiries" allowed that practice.

Joseph Farrell, an FCC economist from 1996 to 1997 and now an economics professor at the University of California at Berkeley, said some type of regulatory structure must be in place if the goal is to move from telecom concentration to competition.

Requiring the Bells to share their facilities at discounted prices provides the incentives for competitors and the Bells to invest in new facilities and services, Farrell said. Despite the history of success with the practice, "the voluntary view seems to be gaining ground," he said.

By Teri Rucker
by Teri Rucker

National Journal's Technology Daily

1 of **1** results | | Back to Results List

September 17, 2002
New York

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Industry Update

Industries Face Off

Bundling, UNE Economics, and the Law

- **Bundling is expected to transform the way carriers compete for the $75 billion local and long-distance consumer voice market**. s271 relief and lower UNE-P rates are spurring increased competition between the ILECs and IXCs. Attempts to leverage their large existing customer bases to penetrate each other's respective historical core markets will likely transform the consumer market, with over 50% of customers purchasing multiple services from a single carrier by 2006.

- **UNE-P provides a lifeline for the IXCs.** We think UNE-P economics are attractive enough to enable the IXCs to manage through a period of significant market share erosion in the consumer long-distance voice market, as the ILECs gain s271 relief. Our expectation is for the IXCs to retrench and focus on preserving their core base of high-value customers. We believe that even with fewer customers, the IXCs should be able to achieve a 34% EBITDA margin on a reduced core base of subscribers.

- **Local for long distance customer swap is a net positive for the IXCs, in our view.** Exchange of long distance versus local customers results in 3:1 exchange in favor of the ILECs. However, declining long distance revenues and lower profit margins translate into a net loss for the ILECs on the exchange. The market-share swap benefits the IXCs, which end up with higher value, more stable local voice revenues to offset lost long distance revenues.

- **The impact of bundling is a positive for the overall industry, in our view.** Increased customer stickiness and productivity of sales channel and order provisioning improves the economics of driving subscriber growth both in terms of market share gains and penetration of new services. Cost savings from lower customer acquisitions costs could theoretically reach well over $1 billion a year. The deflationary element of bundling is negligible, with up-selling of customers and incremental market penetration likely to offset the impact of price discounts.

- **We do not expect the FCC to significantly change the status quo through the triennial review process.** AT&T will likely continue to be able to use UNE-P to take share from the Bells in the residential local voice market. The FCC may make some concessions to the Bells by further limiting switching in the business market, tightening the definition of the "impaired" standard and adopting a sunset provision transitioning to UNE-L at some point in the future.

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REDEFINING THE CONSUMER MARKET

The Consumer Market—A Growing Pie

We expect the consumer market overall to grow at a low single-digit rate over the next several years, as increased market penetration of wireless and broadband services offset declines in wireline voice revenues (see Figure 1). Excluding wireless, consumer revenues are expected to remain essentially flat, with roughly $8 billion of incremental annual revenues from increased broadband penetration, offsetting declines in local and long distance voice. Providers of wireless and broadband services have the most to gain from incremental consumer spending, in our view.

Wireless
Greater wireless penetration should continue to be able to offset the impact of a highly competitive pricing environment for wireless services. Revenue growth for the industry is expected to slow from 25-30% in previous years to a mid-teens rate for 2002, continuing to slow thereafter. We estimate market penetration, currently at 50%, is likely to reach 60% by the end of 2006. The ILECs, through their interests in Verizon Wireless and Cingular, have exposure to this expected growth. The two wireless carriers currently hold a 50% collective market share position in the industry.

Internet Access
The market for broadband Internet access is expected to balloon over the next several years, as customers continue to migrate from dial-up service and first-time users sign up for Internet service. We estimate that current penetration, at 10% of households, is expected to rise steadily to roughly 30% by 2006, with DSL capturing roughly a third of this growing market. This represents a significant incremental revenue stream opportunity for the ILECs, which already have invested heavily in upgrading their networks for DSL service.

Local Voice
While we expect pricing for local voice services to remain fairly stable, we do expect to see some overall implied pricing declines due to increased competition from wholesale competition and facilities-based competitors such as cable. While the price for basic monthly access is likely to remain fairly stable, pricing on minutes of use and vertical features is expected to come down as new competitors such as MCI offer lower pricing through a bundled package offering. Currently, the majority of consumers purchase vertical features on an a la carte basis. Hence, we would expect to see some element of deflationary pricing pressure as feature-rich, heavy-use customers migrate to cheaper, bundled unlimited calling plans. In addition, we also expect to see declines in the overall volume of access lines, driven access line losses to wireless substitution, and DSL cannibalization of additional lines. Wireless substitution of primary and additional lines is expected to reach 2.4% and 9.5%, respectively, by the end of 2006. At the same time, additional line losses due to DSL cannibalization is expected to reach 20% by the end of 2006. Offsetting some of these negative trends is the growth in overall total households, which we expect will continue to grow at roughly 1% a year. The net result is a projected 1% annual decline in local voice revenues for the industry.

Long-Distance Voice
Lower volumes coupled with continued pricing pressure are expected to drive annual declines in total long distance voice revenues. The impact of e-mail and free long-distance wireless pricing plans continue to eat into minutes of use (MOUs) for long distance voice. In terms of pricing, we haven seen a stabilization of lead offers for "1+" direct dial calling. The major competitors have all converged at the $0.07 per minute level and appear to be holding prices at that level. However, similar to pricing trends seen on the wireless side, the migration of high-use customers to effective lower-cost plans is bringing down overall average pricing per customer. An example of this is the proliferation of unlimited long distance calling plans being offered by almost every major competitor. We expect that, over time, heavy users of

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Table 2: AT&T Market Penetration in Selected States

	2002E	2003E	2004E	2005E	2006E	CAGR
Bundled subscribers						
California	460	749	1,040	1,145	1,257	29%
% penetration	*4%*	*7%*	*9%*	*10%*	*11%*	
Texas	395	432	471	510	549	9%
% penetration	*5%*	*6%*	*6%*	*7%*	*7%*	
New York	1,282	1,311	1,340	1,370	1,401	2%
% penetration	*18%*	*19%*	*19%*	*19%*	*20%*	
Pennsylvania	116	292	414	480	547	48%
% penetration	*2%*	*6%*	*9%*	*10%*	*11%*	
Illinois	184	371	490	609	672	38%
% penetration	*4%*	*8%*	*11%*	*13%*	*15%*	
Ohio	178	359	474	590	651	38%
% penetration	*4%*	*8%*	*11%*	*13%*	*15%*	
Michigan	284	430	492	553	586	20%
% penetration	*8%*	*11%*	*13%*	*15%*	*15%*	
New Jersey	74	187	266	308	351	48%
% penetration	*2%*	*6%*	*9%*	*10%*	*11%*	
Georgia	73	184	261	302	344	47%
% penetration	*2%*	*6%*	*9%*	*10%*	*11%*	
Massachusetts	0	91	125	144	163	- -
% penetration	*0%*	*4%*	*5%*	*6%*	*7%*	
Sub-total	3,047	4,407	5,373	6,012	6,521	21%
Standalone subscribers						
California	3,897	2,917	1,952	1,454	971	-29%
Texas	1,309	1,124	940	738	503	-21%
New York	823	639	469	304	142	-36%
Pennsylvania	1,475	1,093	812	625	432	-26%
Illinois	1,668	1,482	1,153	809	521	-25%
Ohio	1,663	1,460	1,172	874	631	-22%
Michigan	1,543	1,374	1,110	848	677	-19%
New Jersey	1,336	1,013	782	639	497	-22%
Georgia	1,133	814	581	406	204	-35%
Massachusetts	753	460	309	189	64	-46%
Sub-total	15,580	12,376	9,280	6,887	4,644	-26%
Grand Total	**18,626**	**16,783**	**14,653**	**12,899**	**11,165**	**-12%**

Source: JPMorgan estimates.

The company is constantly evaluating developments in terms of wholesale pricing. Hence, we would not be surprised to see the eventual number of states in which AT&T enters the local market to grow to 14-17 states, potentially reaching 70% of the total population. States with rate cases currently awaiting decision or in the process of revising existing UNE rates are Arizona, Maryland, Minnesota, Virginia, Colorado, Indiana, and Wisconsin (see Appendix 4 for a summary of rate cases by state).

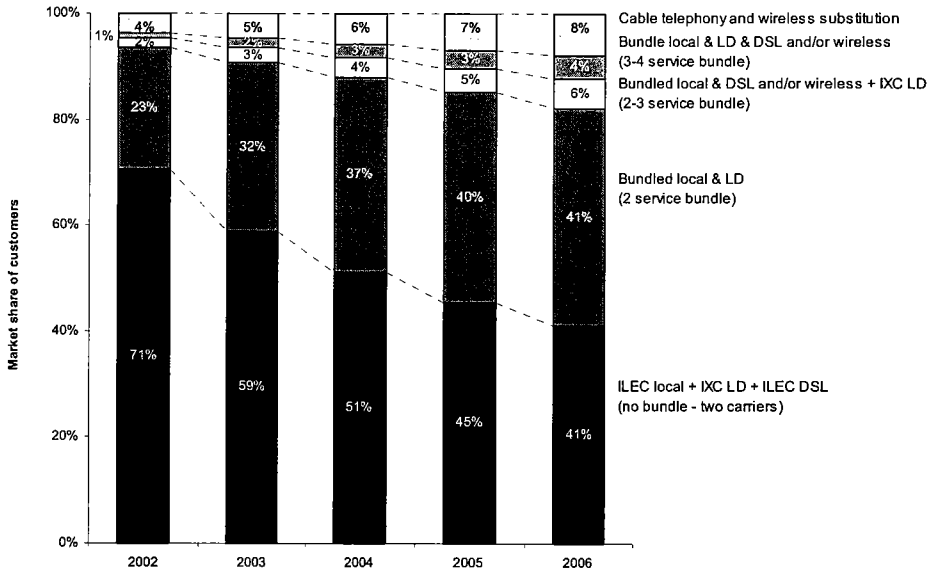
ILECs Bundle to Defend Their Crown Jewels—Local Voice

The ILECs are reciprocating by bundling their local and long distance services together with DSL and wireless in an effort to both drive greater penetration of these services, but more importantly, defend their market share of the large and highly profitable local voice segment of the industry. The average local voice customer generates 2.5 times the revenue and 3.5 times the EBITDA of the average long distance voice customer. Hence, the ILECs face an uphill battle to maintain their share of revenues and EBITDA relative to the IXCs. Initially, we believe the ILECs will have little difficultly achieving this requisite level of long distance subscriber growth relative to local subscriber losses. Over time, however, it will become harder to take incremental market share once they reach a certain point. Exacerbating the situation is that revenues in the long distance voice market are declining at a much faster rate than local voice. Hence, over time, the number of long distance subscribers that ILECs need to add to offset revenue declines increases as the gap between local and long distance economics widens over time with disproportionate price erosion and wireless substitution.

Segmentation of the Consumer marketplace

By 2006, we expect that half of all consumers will be taking a bundle in some form or another, from either an ILEC or IXC, with approximately 40% of customers choosing to continue to purchase services separately (see Figure 3).

Figure 3: Bundled Product Mix Shift, 2002E-2006E



Source: JPMorgan estimates.

No Bundle

While a large portion of consumers will likely migrate to bundled services over the next several years, we believe just as significant a portion of customers—a little more than 40—will likely continue to purchase separate services on a standalone basis. First, only a certain portion of existing customers qualifies for bundled services under current calling plans. A customer would need to subscribe to certain minimum levels of local service in order to be able to participate in certain bundled service offerings. Second, many customers will likely continue to purchase long distance on a standalone basis to preserve flexibility and to take advantage of the most aggressive pricing plans available. Bundled service offerings do not provide every customer with a better value on a standalone product. Depending on usage patterns, we suspect that many customers can and will find more attractive alternatives outside of a bundle to meet their telecommunications needs. For instance, customers currently are able to purchase long distance service at $0.03 per minute from alternative carriers, less than half the $0.07 per minute rate with many bundled calling plans.

Local and Long Distance

With nearly 100% market penetration of local and long distance voice service, with combined revenues of $75 billion, this will serve as the main battleground in the fight for the residential consumer. This bundle represents a zero-sum game of market share, with one group gaining customers and one group losing customers. Hence, we believe this process will be the core focus of bundling efforts for both IXCs and ILECs. While the ILECs are favored to win the battle for subscribers, they also have more at stake, with roughly $1.7 billion of local revenues for every $1 of long distance. Bundling of local and long distance voice is, we believe, the most natural bundle offered and the one we expect will receive the greatest attention from consumers.

DSL

The market for broadband Internet access is expected to balloon over the next several years, as customers continue to migrate from dial-up service and first-time users sign up for Internet service. We estimate that current penetration, at 10% of households, is expected to rise steadily to roughly 30% by 2006, with DSL capturing roughly a third of this growing market. The ILECs, which have already make very heavy investments in upgrading their networks to enable DSL service, see bundling as a attractive way to drive increased penetration and retain local access customers. Earlier this year, ILECs began offering heavy discounts ($20 per month off on the first three months of service) to entice new users to try the service. Bundling and the discounts implicit in the pricing plans may well prove an effective tool to retaining customers once they come off promotional rates. However, a limiting factor near term could be the calling plan minimum requirements needed in order for a customer to qualify for bundled services. We believe that currently only 15-20% of the ILEC customers are taking calling plans that would qualify them for bundled services. However, roughly 40% have monthly spending levels on local service that are either equal to or greater than the cost of a qualifying local calling plan and roughly 45% of DSL customers use their ILEC for long distance service. Hence, while most DSL subscribers are currently on standalone service plans, over the next several years, we expect the penetration of bundled offerings for DSL customers to rise significantly (see Table 3).

Table 3: Composition of DSL Net Adds

(thousands of subscribers)

	2002E	2003E	2004E	2005E	2006E
Standalone	1,152	1,076	801	628	497
% total	*70.0%*	*60.0%*	*55.0%*	*50.0%*	*45.0%*
Bundled with Local/Wireless	247	359	328	314	304
% total	*15.0%*	*20.0%*	*22.5%*	*25.0%*	*27.5%*
Bundled with Local & LD	165	224	219	220	221
% total	*10.0%*	*12.5%*	*15.0%*	*17.5%*	*20.0%*
Bundled with Local & LD & Wireless	82	135	109	94	83
% total	*5.0%*	*7.5%*	*7.5%*	*7.5%*	*7.5%*
Total	1,645	1,794	1,457	1,256	1,104
DSL penetration of households	4.7%	6.4%	7.7%	8.8%	9.6%

Source: Company reports and JPMorgan estimates.

Wireless

Wireless represents a potentially substantial opportunity for the ILECs to leverage their position, given that most IXCs and wireless competitors lack the combination of both wireless and wireline service offerings. We believe that there is likely a high level of consumer interest in phone services that provide inter-exchangeable minutes between wireless and wireline service. Other features, such as integrated voicemail and automated call forwarding, are those that could provide real differentiation of ILEC services from those of the IXCs and pure-play wireless competitors. However, it is unclear to us whether when or if some of these services will become available, given what are likely significant technical hurdles and capital investments required to enable such service. In addition, the shared ownership of both Verizon Wireless and Cingular provide additional obstacles. In the case of Verizon Wireless, it is unclear to us how Vodafone (VOD/$14.25/Buy) would react to a greater integration of the wireless business into the core telecom business, particularly when the pricing and economics of the wireless business become blurred together with the wireless business. While Verizon maintains voting control over Verizon Wireless, Vodafone could simply choose to exit the business and put some or its entire stake back to Verizon if it felt that the move was unfavorable. In the case of Cingular, the joint venture would need to be able provide integrated service in both SBC's and BellSouth's regions. The fact that the wireless service is sold under a different brand further complicates any effort to further integrate it with the wireline business.

Given that we see wireless continuing to be marketed and operated as a separate business from the core domestic business, we expect bundling penetration of residential wireless

EXHIBIT___(MD/MZ-7)

Analyst Conference

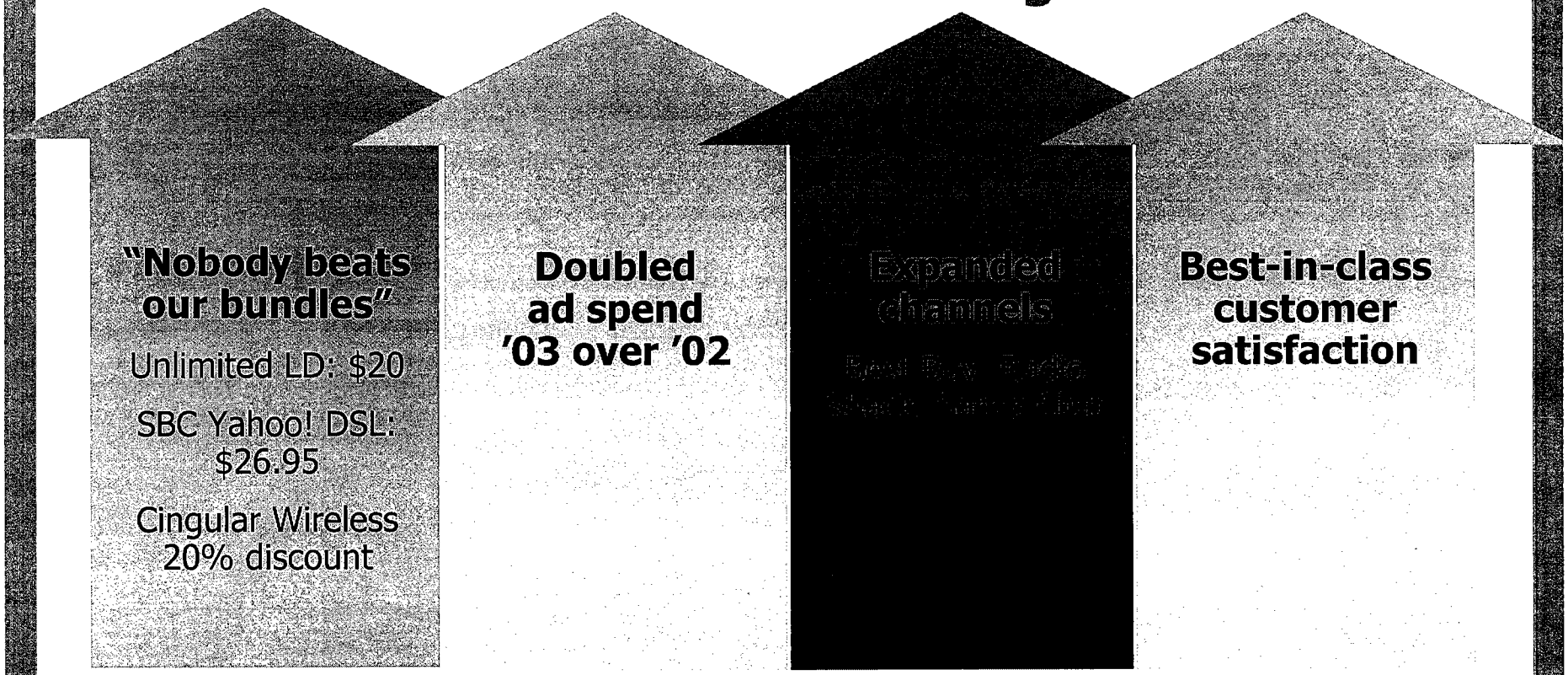
OPPORTUNITY LEADERSHIP EXECUTION

Welcome

Michael P. Coffey
Managing Director-Investor Relations

EXHIBIT ____ (MD/MZ-7)

Positioning for the Future: Consumer

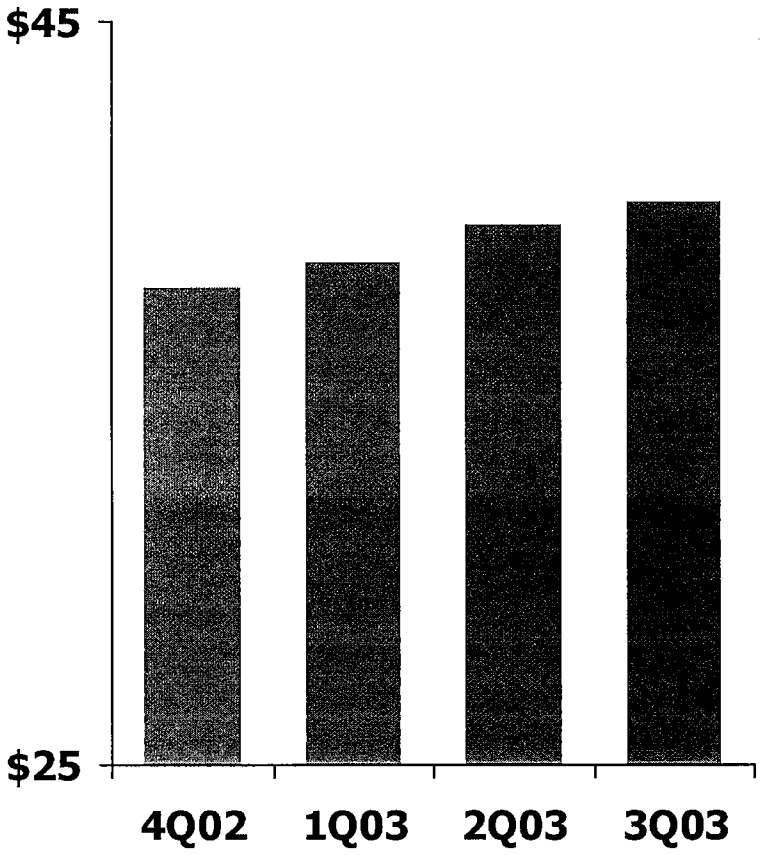


EXHIBIT____(MD/MZ-7)

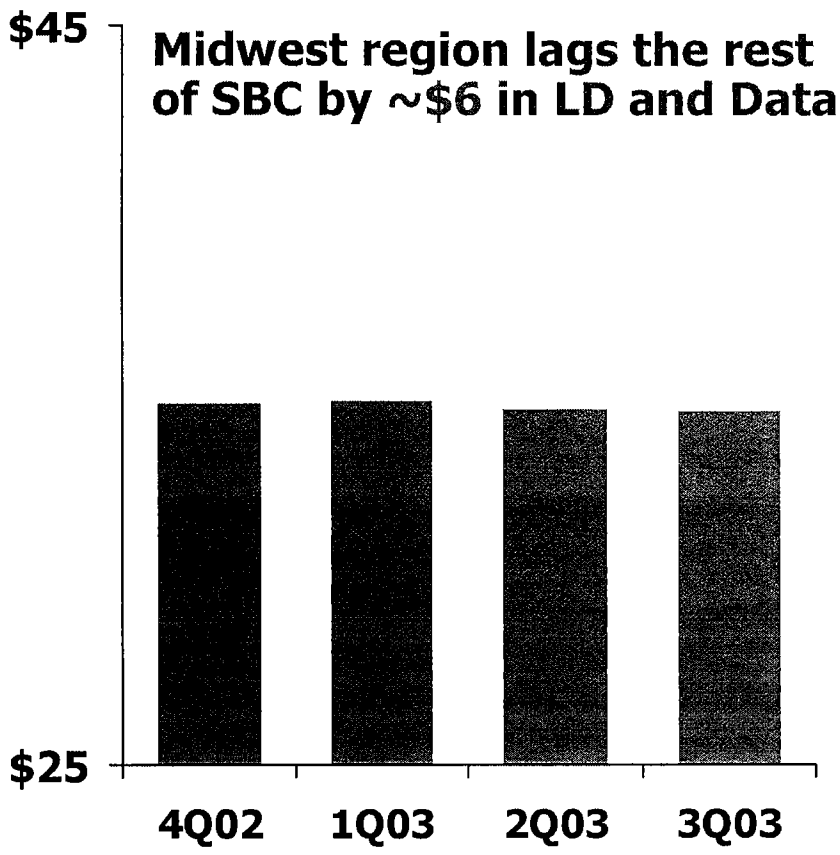
Bundling Drives Higher ARPU

Consumer Revenue per Retail Access Line

SBC Without Midwest



Midwest Region



Midwest region lags the rest of SBC by ~$6 in LD and Data

EXHIBIT____(MD/MZ-7)

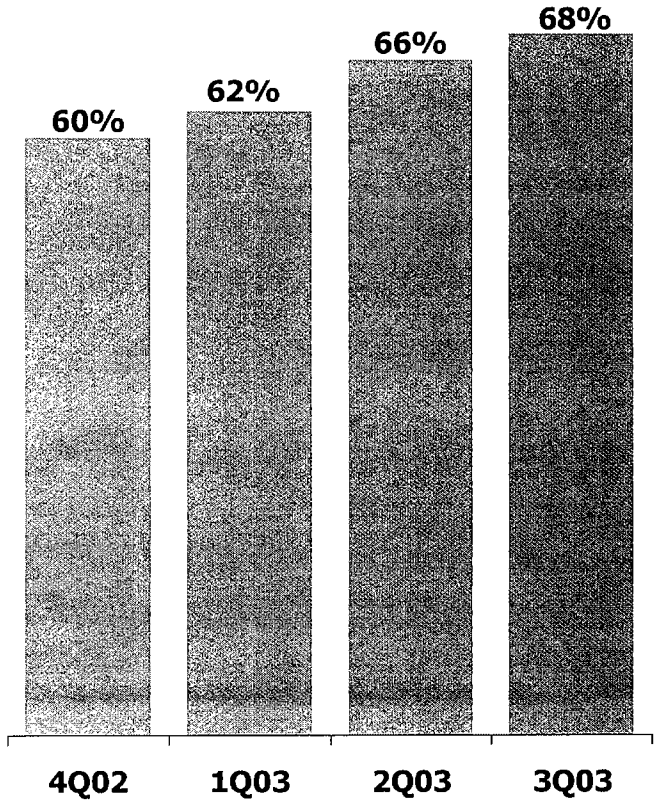
Broadband Strategy: Multiple Impacts

- Drives even **lower access-line churn** and **higher ARPU** as share increases
- Positions us to compete in **VoIP**
- Allows us to **leverage portal** with premium content
- Positions us for today's and tomorrow's **applications and speeds**
  - **1.5 Mbps accommodates** today's users
  - **4 – 6 Mbps available** to ~50% of locations passed today
  - **Compression** technologies deliver greater throughput

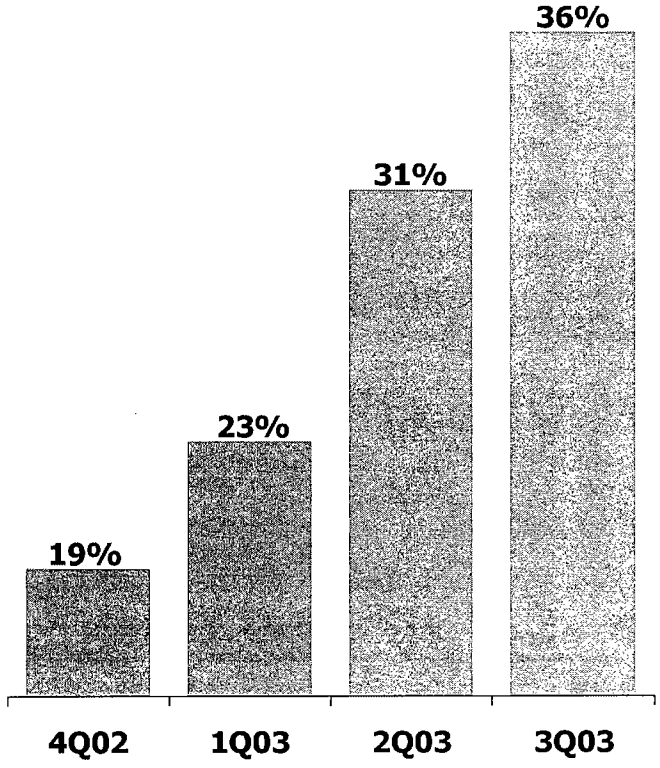
EXHIBIT ____(MD/MZ-7)

Executing Bundling Strategy

Customers With Bundles



Customers With Key Product Bundles

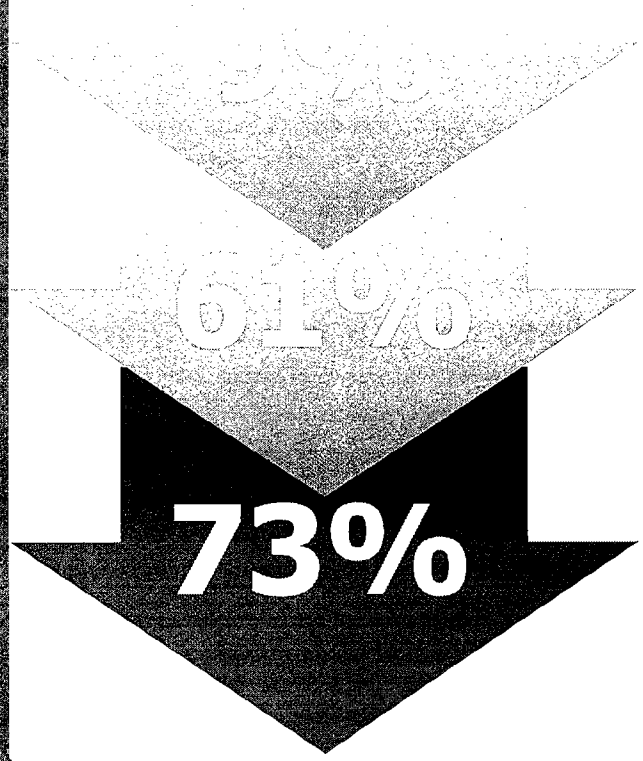


SBC Long Distance SBC YAHOO! DSL cingular WIRELESS FreedomLink SBC dish NETWORK

EXHIBIT ___ (MD/MZ-7)

Key Bundles Drive Down Churn Rate

Consumer Churn vs. Basic Bundle (Line + 2 or More Verticals)
September 2003



SBC Long Distance

SBC Yahoo! DSL

SBC Long Distance & DSL

NEWS

Federal Communications Commission
445 12th Street, S.W.
Washington, D. C. 20554

News Media Information 202 / 418-0500
Internet: http://www.fcc.gov
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This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action.
See MCI v. FCC. 515 F 2d 385 (D.C. Circ 1974).

FOR IMMEDIATE RELEASE
December 22, 2003

NEWS MEDIA CONTACT:
Mike Balmoris at (202) 418-0253
Email: michael.balmoris@fcc.gov

FEDERAL COMMUNICATIONS COMMISSION RELEASES DATA ON HIGH-SPEED SERVICES FOR INTERNET ACCESS

High-Speed Connections to the Internet Increased 18% During the First Half of 2003 for a Total of 23.5 Million Lines in Service

Washington, D.C. – The Federal Communications Commission (FCC) today released summary statistics of its latest data on the deployment of high-speed connections to the Internet in the United States. Facilities-based service providers file data with the FCC on the amount of high-speed connections in service twice a year pursuant to the FCC's local competition and broadband data gathering program (FCC Form 477).

The FCC adopted the local competition and broadband data gathering program in March 2000 to assist the FCC in its efforts to monitor and further implement the pro-competitive, deregulatory provisions of the Telecommunications Act of 1996. The FCC uses data from this effort to evaluate the deployment of advanced telecommunications capability.

For reporting purposes, ***high-speed lines*** are defined as those that provide services at speeds exceeding 200 kilobits per second (kbps) in at least one direction, while ***advanced services lines*** are those that provide services at speeds exceeding 200 kbps in both directions. Reporting of state-level data is required for providers with at least 250 high-speed connections in service in a state. Statistics released today summarize FCC Form 477 filings due from qualifying providers on September 1, 2003, and reflect data as of June 30, 2003.

1) <u>High-Speed Lines</u>

- High-speed lines connecting homes and businesses to the Internet increased by 18% during the first half of 2003, from 19.9 million to 23.5 million lines, compared to a 23% increase, from 16.2 million to 19.9 million lines, during the second half of 2002. For the full twelve month period ending June 30, 2003, high-speed lines increased by 45%.

- Of the 23.5 million high-speed lines in service, 20.6 million served residential and small business subscribers, a 19% increase from the 17.4 million residential and small business high-speed lines reported six months earlier. For the full twelve month

period ending June 30, 2003, high-speed lines for residential and small business subscribers increased by 48%.

2) **Advanced Services Lines**

- Of the 23.5 million high-speed lines, 16.3 million provided advanced services, i.e., services at speeds exceeding 200 kbps in both directions. Advanced services lines increased 32% during the first half of 2003, from 12.4 million to 16.3 million lines. For the full twelve month period ending June 30, 2003, advanced services lines of all technology types increased by 56%.

- About 14.3 million of the 16.3 million advanced services lines served residential and small business subscribers.

3) **Technology Type**

- High-speed connections in service over asymmetric digital subscriber line (ADSL) technologies increased by 19% during the first half of 2003, from 6.5 million to 7.7 million lines, compared to a 27% increase, from over 5.1 million to 6.5 million lines, during the preceding six months. For the full twelve month period ending June 30, 2003, high-speed ADSL increased by 50%.

- High-speed coaxial cable connections (cable modem service) increased by 20% during the first six months of 2003, from 11.4 million to 13.7 million lines, compared to a 24% increase, from 9.2 million to 11.4 million lines, during the second half of 2002. For the full twelve month period ending June 30, 2003, high-speed cable modem connections increased by 49%.

- Among ***advanced services lines***, ADSL lines increased by 16% during the first six months of 2003, compared to a 43% increase for cable modem service. During the preceding six-month period, the rate of growth of ADSL (18%) was slightly lower than cable modem service (22%). For the full twelve month period ending June 30, 2003, advanced services lines – service lines provided in excess of 200 kbps in both directions – for ADSL increased by 37% and cable modem connections increased by 75%.

The summary statistics released today also include state-by-state, population density, and household income information, ranked by zip codes. As additional information becomes available, it will be routinely posted on the Commission's Internet site.

The report is available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street, SW, Washington, DC. Copies may be purchased by calling Qualex International at (202) 863-2893. The report can also be downloaded from the **FCC-State Link** Internet site at www.fcc.gov/wcb/stats.

- FCC -

Wireline Competition Bureau contacts: Industry Analysis and Technology Division at (202) 418-0940, TTY (202) 418-0484.

High-Speed Services for Internet Access: Status as of June 30, 2003

Industry Analysis and Technology Division
Wireline Competition Bureau
December 2003

This report is available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street, SW, Washington, DC. Copies may be purchased by contacting Qualex International, 445 12th Street, SW, Room CY-B402, Washington, DC 20554, telephone 202-863-2893, facsimile 202-863-2898, or via e-mail qualexint@aol.com. The report can also be downloaded from the **FCC-State Link** Internet site at www.fcc.gov/wcb/stats.

High-Speed Services for Internet Access: Status as of June 30, 2003

Congress directed the Commission and the states, in section 706 of the Telecommunications Act of 1996, to encourage deployment of advanced telecommunications capability in the United States on a reasonable and timely basis.[1] To assist in its evaluation of such deployment, the Commission instituted a formal data collection program to gather standardized information about subscribership to high-speed services, including advanced services, from wireline telephone companies, cable providers, terrestrial wireless providers, satellite providers, and any other facilities-based providers of advanced telecommunications capability.[2]

We summarize here information from the eighth data collection, thereby presenting a snapshot of subscribership as of June 30, 2003.[3] Subscribership to high-speed services for Internet access increased by 18% during the first half of 2003, to a total of 23.5 million lines in service. The presence of high-speed service subscribers was reported in all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands, and in 91% of the zip codes in the United States.

Before presenting the most recent information in some detail, a brief description of the Commission's data collection program is in order to enable the reader to better understand how the nationwide information presented here may compare to similar information derived from other sources. First, a facilities-based provider of high-speed connections to end users in a given state reports to the Commission basic information about its service offerings and customers if the provider has at least 250 high-speed lines (or wireless channels) in service in that state.[4] While

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[1] *See* §706, Pub.L. 104-104, Title VII, Feb. 8, 1996, 110 Stat. 153, reproduced in the notes under 47 U.S.C. §157. We use the term "high-speed" to describe services that provide the subscriber with transmissions at a speed in excess of 200 kilobits per second (kbps) in at least one direction. "Advanced services," which provide the subscriber with transmission speeds in excess of 200 kbps in each direction, are a subset of high-speed services.

[2] *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717 (2000) (*Data Gathering Order*). During this data gathering program, qualifying providers file FCC Form 477 each year on March 1 (reporting data for the preceding December 31) and September 1 (reporting data for June 30 of the same year). An updated FCC Form 477, and Instructions for that particular form, for each specific round of the data collection may be downloaded from the FCC Forms website at www.fcc.gov/formpage.html. Previously, the Common Carrier Bureau collected information on a voluntary basis. *See Local Competition and Broadband Reporting*, CC Docket No. 99-301, Notice of Proposed Rulemaking, 14 FCC Rcd 18106 (1999).

[3] Statistical summaries of the earlier Form 477 data collections appeared in *Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, CC Docket No. 98-146, Second Report, 15 FCC Rcd 20913 (2000) (*Second 706 Report*), available at www.fcc.gov/broadband/706.html, and in previous releases of the *High-Speed Services for Internet Access* report, available at www.fcc.gov/wcb/stats.

[4] The reporting threshold of 250 high-speed lines (or wireless channels) is calculated based collectively on all commonly-owned and commonly-controlled affiliates operating in a given state, with a 10% equity interest as indicia of ownership. For reporting purposes, an entity is a facilities-based provider of high-speed service if it provides the service over its own "local loop" facilities connecting to end users, or over unbundled network elements (UNEs), special access lines, and other leased lines and wireless channels that it obtains from unaffiliated entities and equips to provide high-speed service. Non-facilities-based Internet Service Providers (ISPs), as such, have no reporting obligation. End-user lines equipped as high-speed service by, for example, an incumbent LEC (continued....)

providers not meeting the reporting threshold may provide information on a voluntary basis, as some have done, it is likely that not all such providers have reported data.[5] In particular, we do not know how comprehensively small providers, many of which serve rural areas with relatively small populations, are represented in the data summarized here. Second, lines (or wireless channels) that are not "high-speed" (i.e., delivering transmissions to the subscriber at a speed in excess of 200 kbps in at least one direction) are not reported. Some asymmetric digital subscriber line (ADSL) services and Integrated Services Digital Network (ISDN) services provided by telephone companies and some services that connect subscribers to the Internet over cable systems do not meet this criterion, but may nevertheless meet the needs of the subscribers who select them.

Based on the latest information now available, readers can draw the following broad conclusions:

- Subscribership to high-speed services increased by 18% during the first half of 2003, to a total of 23.5 million lines (or wireless channels) in service. The rate of growth during the second half of 2002 was 23%. See Table 1.

- High-speed ADSL lines in service increased by 19% during the first half of 2003, to 7.7 million lines. High-speed connections over coaxial cable systems (cable modem service) increased by 20%, to 13.7 million lines.[6] See Table 1.

- Reported high-speed connections to end users by means of satellite or fixed wireless technologies increased by 12% during the first half of 2003, and reported fiber optic connections to end-user premises increased by 5%. These technologies, together, accounted for about 0.9 million high-speed connections at the end of June 2003. See Table 1.

(Continued from previous page)
must be reported by the incumbent LEC or an affiliate (assuming the LEC and its affiliates collectively have at least 250 such lines in service in a given state) irrespective of whether the end user of the retail high-speed Internet-access service is billed by the incumbent LEC, its ISP affiliate, another affiliate, or its billing agent, or by an unaffiliated ISP that has incorporated the incumbent LEC's high-speed service into a premium Internet-access service marketed under the ISP's own name.

[5] High-speed lines reported in recent voluntary submissions represent less than 0.05% of total high-speed lines reported.

[6] Providers are instructed to report a high-speed subscriber in the (mutually exclusive) technology category that characterizes the last few feet of distribution plant to the subscriber's premises, e.g., coaxial cable in the case of the hybrid fiber-coax (HFC) architecture of upgraded cable systems. As noted above, ADSL services that do not deliver over 200 kbps in at least one direction are not included in the data reported here. Symmetric DSL services at speeds exceeding 200 kbps are included in the "other wireline" category because they are typically used to provide data services that are functionally equivalent to the T-1 and other data services that wireline telephone companies have offered to business customers for some time.

- Subscribership to the subset of high-speed services that are described as advanced services (i.e., delivering to subscribers transmission speeds in excess of 200 kbps in each direction) increased by 32% during the first half of 2003, to a total of 16.3 million lines (or wireless channels) in service. Advanced services lines provided by means of ADSL technology increased by 16%, and advanced services lines provided over coaxial cable systems increased by 43%.[7] See Table 2.

- As of June 30, 2003, there were about 20.6 million high-speed lines serving residential and small business subscribers. By contrast, there were about 17.4 million such lines six months earlier, and about 14.0 million a year earlier. See Table 3.

- Of the 20.6 million high-speed lines in service to residential and small business subscribers at the end of June 2003, we estimate that about 14.3 million lines provide advanced services.[8] See Table 4.

- Among entities that reported facilities-based ADSL high-speed lines in service as of June 30, 2003, about 95% of such lines were reported by incumbent local exchange carriers (ILECs). ILECs claimed a smaller share, about 71%, of high-speed lines delivered over other traditional wireline facilities.[9] When all technologies are considered, ILECs provided about 35% of high-speed connections to end-user customers. See Table 5.

- Providers of high-speed services over coaxial cable systems report serving subscribers in all 50 states, the District of Columbia, and Puerto Rico. Providers of high-speed ADSL services report serving subscribers in all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands, as do providers who use wireline technologies other than ADSL, or who use optical carrier (i.e., fiber), satellite, or fixed wireless technologies in the last few feet to the subscriber's premises.[10] See Table 6.

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[7] Providers also estimate the percentage of high-speed connections that are faster than 2 mbps in both directions. About 0.4 million such connections were reported as of June 30, 2003. About 54% of these connections were reported in the other traditional wireline category and about 39% were reported in the optical carrier category.

[8] Filers of FCC Form 477 do not directly report the number of advanced services lines provided to residential and small business end users, as opposed to other end users. In estimating the number of advanced services lines serving residential and small business end users, we assume that reported advanced service lines were more likely to be delivered to large business users first and to residential and small business users second. *See also Second 706 Report*, 15 FCC Rcd 20943.

[9] Symmetric forms of DSL services, which are typically purchased by business customers, are included in this category.

[10] Information about providers of high-speed services other than ADSL and cable modem is reported in a single category, for the individual states, to honor requests for nondisclosure of information that reporting entities assert is competitively sensitive. In the *Data Gathering Order*, the Commission stated it would publish high-speed data only once it has been aggregated in a manner that does not reveal individual company data. *See Data Gathering Order*, 15 FCC Rcd 7760.

- The Commission's data collection program gathers from providers information about the number of high-speed lines in service in individual states, in total and by technology deployed in the last few feet to the subscriber's premises. Relatively large numbers of total high-speed lines in service are associated with the more populous states. As of June 30, 2003, the most populous state, California, has the largest reported number of high-speed lines. The second, third, and fourth largest numbers of high-speed lines are reported for New York, Florida, and Texas, which are the third, fourth, and second most populous states, respectively. See Table 7 and, for historical data, see Tables 8 - 10.

- Reporting entities estimate the percentage of their high-speed lines in service that connect to residential and small business end users (as opposed to connecting to medium and large business, institutional, or government end users).[11] These percentages allow us to derive approximate numbers of residential and small-business high-speed lines in service by state. See Table 11.

- The Commission's data collection program also requires service providers to identify each zip code in which the provider has at least one high-speed service subscriber. As of June 30, 2003, subscribers to high-speed services were reported in 91% of the nation's zip codes. In 75% of the nation's zip codes more than one provider reported having subscribers.[12] See Table 12.

- Our analysis indicates that 99% of the country's population lives in the 91% of zip codes where a provider reports having at least one high-speed service subscriber. Moreover, numerous competing providers report serving high-speed subscribers in the major population centers of the country. See the map that follows Table 12.

- States vary widely with respect to the percentage of zip codes in the state in which no high-speed lines are reported to be in service. See Table 13.

- High population density has a positive association with reports that high-speed subscribers are present, and low population density has an inverse association. For example, as of June 30, 2003, high-speed subscribers are reported to be present in 99% of the most densely populated zip codes and in 69% of zip codes with the lowest population densities.[13] The comparable figure for the lowest-density zip codes was 50% a year earlier. See Table 14.

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[11] Reporting entities are instructed to consider a high-speed line as being provided to a "residential and small business" end user if that end user has a high-speed connection of a type (*e.g.*, speed and price) that is normally associated with residential end users.

[12] Lists of zip codes with number of service providers as reported in the FCC Form 477 filings are made available at www.fcc.gov/wcb/stats in a format that honors requests for nondisclosure of information the reporting entities assert is competitively sensitive.

[13] For this comparison, we consider the most densely populated zip codes to be those with more than 3,147 persons per square mile (the top decile of zip codes) and the least densely populated zip codes to be those with fewer than 6 persons per square mile (the bottom decile).

- High median household income also has a positive association with reports that high-speed subscribers are present. In the top one-tenth of zip codes ranked by median household income, high-speed subscribers are reported in 98% of zip codes. By contrast, high-speed subscribers are reported in 78% of zip codes with the lowest median household income, compared to 69% a year earlier. See Table 15.

As other information from the Commission's data collection program (FCC Form 477) becomes available, it will be included in future reports on the deployment of advanced telecommunications capability and in publications such as this one.

We invite users of this information to provide suggestions for improved data collection and analysis by:

- Using the attached customer response form,
- E-mailing comments to James.Eisner@fcc.gov,
- Calling the Industry Analysis and Technology Division of the Wireline Competition Bureau at (202) 418-0940, or
- Participating in any formal proceedings undertaken by the Commission to solicit comments for improvement of FCC Form 477.

Table 1
High-Speed Lines [1]
(Over 200 kbps in at Least One Direction)

Types of Technology [2]	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003	Percent Change June 2002 - Dec 2002	Percent Change Dec 2002 - Jun 2003
ADSL	369,792	951,583	1,977,101	2,693,834	3,947,808	5,101,493	6,471,716	7,675,114	27 %	19 %
Other Wireline	609,909	758,594	1,021,291	1,088,066	1,078,597	1,186,680	1,216,208	1,215,713	2	0
Coaxial Cable	1,411,977	2,284,491	3,582,874	5,184,141	7,059,598	9,172,895	11,369,087	13,684,225	24	20
Fiber	312,204	307,151	376,203	455,593	494,199	520,884	548,471	575,613	5	5
Satellite or Fixed Wireless	50,404	65,615	112,405	194,707	212,610	220,588	276,067	309,006	25	12
Total Lines	2,754,286	4,367,434	7,069,874	9,616,341	12,792,812	16,202,540	19,881,549	23,459,671	23 %	18 %

Table 2
Advanced Services Lines [1]
(Over 200 kbps in Both Directions)

Types of Technology [2]	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003	Percent Change June 2002 - Dec 2002	Percent Change Dec 2002 - Jun 2003
ADSL	185,950	326,816	675,366	998,883	1,369,143	1,852,879	2,178,394	2,536,368	18 %	16 %
Other Wireline	609,909	758,594	1,021,291	1,088,066	1,078,597	1,186,680	1,216,208	1,215,713	2	0
Coaxial Cable	877,465	1,469,130	2,193,609	3,329,976	4,394,778	6,819,395	8,342,234	11,935,866	22	43
Fiber	307,315	301,143	376,197	455,549	486,483	518,908	548,123	575,057	6	5
Satellite or Fixed Wireless	7,816	3,649	26,906	73,476	75,341	66,073	65,929	64,393	0	-2
Total Lines	1,988,455	2,859,332	4,293,369	5,945,950	7,404,343	10,443,935	12,350,888	16,327,396	18 %	32 %

Note: Some previously published data for December 2002 have been revised.

[1] A high-speed line is a connection to an end-user customer that is faster than 200 kbps in at least one direction. Advanced services lines, which are a subset of high-speed lines, are connections to end-user customers that are faster than 200 kbps in both directions. The speed of the purchased service varies among end-user customers. For example, a high-speed service delivered to the end-user customer over other traditional wireline technology, such as DS1 or DS3 service, or over optical fiber to the end user's premises may be much faster than the ADSL or cable modem service purchased by a different, or by the same, end user. Numbers of lines reported here are not adjusted for the speed of the service delivered over the line or the number of end users able to utilize the lines.

[2] The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

Table 3
Residential and Small Business High-Speed Lines [1]
(Over 200 kbps in at Least One Direction)

Types of Technology [2]	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003	Percent Change: June 2002 - Dec 2002	Percent Change: Dec 2002 - Jun 2003
ADSL	291,757	772,272	1,594,879	2,490,740	3,615,989	4,395,033	5,529,241	6,429,938	26 %	16 %
Other Wireline	46,856	111,490	176,520	138,307	139,660	223,599	213,489	250,372	-5	17
Coaxial Cable	1,402,394	2,215,259	3,294,546	4,998,540	7,050,709	9,157,285	11,342,512	13,660,541	24	20
Fiber	1,023	325	1,994	2,623	4,139	6,120	14,692	16,132	NM	NM
Satellite or Fixed Wireless	50,189	64,320	102,432	182,165	194,897	202,251	256,978	288,786	27	12
Total Lines	1,792,219	3,163,666	5,170,371	7,812,375	11,005,396	13,984,287	17,356,912	20,645,769	24 %	19 %

Table 4
Residential and Small Business Advanced Services Lines [1]
(Over 200 kbps in Both Directions)

Types of Technology [2]	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003	Percent Change: Dec 2001 - Jun 2002	Percent Change: Jun 2002 - Dec 2002
ADSL	116,994	195,324	393,246	916,364	1,243,996	1,580,575	1,827,547	2,071,779	16 %	13 %
Other Wireline	46,856	111,490	176,520	138,307	139,660	223,599	213,489	250,372	-5	17
Coaxial Cable	872,024	1,401,434	2,177,328	3,146,953	4,388,967	6,809,170	8,322,157	11,920,207	22	43
Fiber	138	325	1,992	2,617	3,523	5,118	14,408	15,751	NM	NM
Satellite or Fixed Wireless	7,682	2,916	17,043	60,988	58,113	47,787	47,903	46,407	0	-3
Total Lines	1,043,694	1,711,488	2,766,130	4,265,229	5,834,258	8,666,249	10,425,505	14,304,515	20 %	37 %

Notes: Some previously published data for December 2002 have been revised. Residential and small business advanced services lines are estimated based on data from FCC Form 477.

NM - Not meaningful due to small number of lines.

[1] A high-speed line is a connection to an end-user customer that is faster than 200 kbps in at least one direction. Advanced services lines, which are a subset of high-speed lines, are connections to end-user customers that are faster than 200 kbps in both directions. The speed of the purchase service varies among end-user customers. For example, a high-speed service delivered to the end-user customer over other traditional wireline technology, such as DS1 or DS3 service, or over optical fiber to the end user's premises may be much faster than the ADSL or cable modem service purchased by a different, or by the same, end user. Numbers of lines reported here are not adjusted for the speed of the service delivered over the line or the number of end users able to utilize the lines.

[2] The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

Table 5
High-Speed Lines by Type of Provider as of June 30, 2003
(Over 200 kbps in at Least One Direction)

Types of Technology [1]	Lines				Percent of Lines		
	RBOC [2]	Other ILEC	Non-ILEC [3]	Total	RBOC [2]	Other ILEC	Non-ILEC [3]
ADSL	6,490,190	774,223	410,701	7,675,114	84.6 %	10.1 %	5.4 %
Other Wireline	710,451	153,590	351,672	1,215,713	58.4	12.6	28.9
Coaxial Cable	*	*	13,661,872	13,684,225	*	*	99.6
Other	*	*	819,833	884,619	*	*	92.7
Total Lines	7,266,765	948,828	15,244,078	23,459,671	31.0 %	4.0 %	65.0 %

* Data withheld to maintain firm confidentiality.

[1] The mutually exclusive types of technology are, respectively: Asymmetric digital subscriber line (ADSL) technologies, which provide speeds in one direction greater than speeds in the other direction; wireline technologies "other" than ADSL, including traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality; coaxial cable, including the typical hybrid fiber-coax (HFC) architecture of upgraded cable TV systems; optical fiber to the subscriber's premises (e.g., Fiber-to-the-Home, or FTTH); and satellite and (terrestrial) fixed wireless systems, which use radio spectrum to communicate with a radio transmitter at the subscriber's premises.

[2] "RBOC" lines include all high-speed lines reported by BellSouth, SBC, and Verizon, and all high-speed lines reported by Qwest in states in which Qwest has ILEC operations.

[3] High-speed lines reported by competitive local exchange carrier (CLEC) or cable TV operations that are affiliated with a local exchange carrier are included in "Non-ILEC" lines, except for any such lines that are included in "RBOC" lines.

Table 6
Providers of High-Speed Lines by Technology as of June 30, 2003
(Over 200 kbps in at Least One Direction)

	ADSL	Coaxial Cable	Other [1]	Total (Unduplicated)
Alabama	7	10	13	22
Alaska	6	*	5	9
Arizona	7	5	14	21
Arkansas	7	*	8	14
California	16	10	24	37
Colorado	6	4	13	18
Connecticut	5	5	12	17
Delaware	*	*	4	7
District of Columbia	5	*	8	9
Florida	11	9	25	33
Georgia	14	8	28	35
Hawaii	*	*	*	*
Idaho	6	*	6	11
Illinois	17	4	22	32
Indiana	12	8	17	26
Iowa	18	13	24	36
Kansas	14	14	22	34
Kentucky	9	6	11	21
Louisiana	8	4	12	18
Maine	4	*	7	12
Maryland	6	9	10	20
Massachusetts	7	7	15	22
Michigan	14	8	20	32
Minnesota	20	11	25	41
Mississippi	5	6	8	16
Missouri	11	9	15	25
Montana	9	*	7	17
Nebraska	10	6	13	20
Nevada	7	*	9	13
New Hampshire	5	4	9	14
New Jersey	5	5	13	17
New Mexico	6	4	7	13
New York	16	8	22	33
North Carolina	16	7	18	29
North Dakota	16	4	16	22
Ohio	16	12	23	32
Oklahoma	9	*	15	20
Oregon	13	5	15	24
Pennsylvania	16	9	19	32
Puerto Rico	*	*	*	4
Rhode Island	*	*	7	7
South Carolina	13	9	14	23
South Dakota	11	4	9	19
Tennessee	16	8	18	33
Texas	27	9	32	47
Utah	9	*	14	18
Vermont	6	*	8	11
Virgin Islands	*	0	*	*
Virginia	9	5	16	22
Washington	12	6	18	24
West Virginia	*	5	5	11
Wisconsin	13	5	16	25
Wyoming	5	*	5	8
Nationwide (Unduplicated) Jun 2003	235	98	217	378
Nationwide (Unduplicated) Dec 2002	178	87	169	299
Nationwide (Unduplicated) Jun 2002	142	68	138	237
Nationwide (Unduplicated) Dec 2001	117	59	122	203
Nationwide (Unduplicated) Jun 2001	86	47	98	160
Nationwide (Unduplicated) Dec 2000	68	39	87	136
Nationwide (Unduplicated) Jun 2000	47	36	75	116
Nationwide (Unduplicated) Dec 1999	28	43	65	105

* Data withheld to maintain firm confidentiality. In this table, an asterisk also indicates 1-3 providers reporting.

[1] Other includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber to the subscriber's premises, satellite, and (terrestrial) fixed wireless systems.

Table 7
High-Speed Lines by Technology as of June 30, 2003
(Over 200 kbps in at Least One Direction)

	ADSL	Coaxial Cable	Other [1]	Total
Alabama	70,639	181,338	31,969	283,946
Alaska	14,013	*	*	61,121
Arizona	77,368	319,272	48,539	445,179
Arkansas	44,801	*	*	128,311
California	1,715,998	1,395,435	345,248	3,456,681
Colorado	126,189	181,766	36,199	344,154
Connecticut	124,742	227,658	15,786	368,186
Delaware	*	*	3,386	55,030
District. of Columbia	39,471	*	*	70,715
Florida	644,621	867,513	141,403	1,653,537
Georgia	368,372	289,922	109,766	768,060
Hawaii	*	*	*	*
Idaho	19,382	*	*	64,353
Illinois	363,733	383,069	124,667	871,469
Indiana	85,968	122,338	28,724	237,030
Iowa	39,386	111,748	11,123	162,257
Kansas	50,839	181,437	16,520	248,796
Kentucky	75,316	23,672	22,606	121,594
Louisiana	100,919	189,920	24,851	315,690
Maine	11,052	*	*	85,615
Maryland	126,873	306,442	36,511	469,826
Massachusetts	207,344	564,961	48,830	821,135
Michigan	135,360	543,336	58,059	736,755
Minnesota	115,244	255,988	29,138	400,370
Mississippi	33,650	50,234	12,227	96,111
Missouri	138,046	191,658	37,274	366,978
Montana	13,119	*	*	28,023
Nebraska	18,285	111,903	10,984	141,172
Nevada	47,934	*	*	209,732
New Hampshire	17,823	95,612	5,444	118,879
New Jersey	211,540	690,620	65,680	967,840
New Mexico	26,948	38,004	7,017	71,969
New York	438,241	1,401,322	157,777	1,997,340
North Carolina	161,642	454,272	65,390	681,304
North Dakota	11,593	10,066	3,815	25,474
Ohio	243,689	508,458	69,788	821,935
Oklahoma	78,248	*	*	234,823
Oregon	95,654	197,794	25,012	318,460
Pennsylvania	230,322	482,471	59,483	772,276
Puerto Rico	*	*	*	32,063
Rhode Island	*	*	4,391	105,610
South Carolina	52,667	185,083	25,118	262,868
South Dakota	8,637	9,156	4,223	22,016
Tennessee	92,777	277,579	44,357	414,713
Texas	597,447	888,595	124,893	1,610,935
Utah	65,648	*	*	135,007
Vermont	15,072	*	*	39,773
Virgin Islands	*	0	*	*
Virginia	114,797	404,616	48,100	567,513
Washington	225,377	313,915	38,086	577,378
West Virginia	*	73,263	*	90,173
Wisconsin	84,100	287,519	30,376	401,995
Wyoming	5,503	*	*	17,507
Nationwide	7,675,114	13,684,225	2,100,332	23,459,671

* Data withheld to maintain firm confidentiality.

[1] Other includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber to the subscriber's premises, satellite, and (terrestrial) fixed wireless systems.

Table 8
High-Speed Lines by State
(Over 200 kbps in at Least One Direction)

	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003
Alabama	19,796	32,756	63,334	86,234	138,979	172,365	227,888	283,946
Alaska	*	*	934	20,906	50,277	46,791	55,975	61,121
Arizona	58,825	111,678	153,500	158,122	251,709	308,621	370,939	445,179
Arkansas	8,155	15,539	28,968	40,803	66,537	84,235	100,280	128,311
California	547,179	910,006	1,386,625	1,705,814	2,041,276	2,598,491	3,035,756	3,456,681
Colorado	36,726	64,033	104,534	147,220	177,419	243,810	298,265	344,154
Connecticut	36,488	63,772	111,792	149,057	191,257	236,490	307,860	368,186
Delaware	1,558	3,660	7,492	12,771	26,601	36,619	51,100	55,030
District of Columbia	13,288	16,926	27,757	39,101	43,278	55,197	64,310	70,715
Florida	190,700	244,678	460,795	651,167	911,261	1,119,693	1,405,976	1,653,537
Georgia	75,870	130,292	203,855	302,598	420,206	512,135	654,833	768,060
Hawaii	*	*	*	*	*	*	*	*
Idaho	*	8,070	15,908	20,233	18,445	43,119	54,963	64,353
Illinois	77,672	166,933	242,239	350,241	422,706	553,442	734,171	871,469
Indiana	20,059	49,702	60,494	80,364	123,704	159,392	205,946	237,030
Iowa	19,258	49,159	58,199	72,583	82,024	102,932	121,053	162,257
Kansas	26,179	42,679	68,743	101,734	125,963	149,733	193,568	248,796
Kentucky	23,570	24,237	32,731	39,297	67,870	90,284	99,265	121,594
Louisiana	28,133	43,294	74,950	121,685	164,760	207,257	262,093	315,690
Maine	19,878	17,864	26,266	38,149	49,523	61,406	73,061	85,615
Maryland	52,749	71,005	124,465	181,021	260,634	316,666	391,397	469,826
Massachusetts	114,116	185,365	289,447	357,256	505,819	583,627	679,084	821,135
Michigan	81,223	135,318	198,230	395,583	433,858	538,416	640,766	736,755
Minnesota	38,268	65,272	117,283	148,012	199,856	273,907	335,562	400,370
Mississippi	*	6,514	12,305	21,517	35,586	57,595	80,922	96,111
Missouri	23,347	46,903	100,403	123,915	181,794	224,282	260,752	366,978
Montana	*	*	7,378	10,446	13,037	17,969	20,090	28,023
Nebraska	36,748	44,188	54,085	55,188	71,451	92,849	117,219	141,172
Nevada	23,514	40,582	59,879	78,535	109,850	138,042	159,179	209,732
New Hampshire	22,807	33,045	42,364	55,658	71,200	86,200	102,590	118,879
New Jersey	101,832	144,203	285,311	428,514	590,192	693,036	839,095	967,840
New Mexico	*	2,929	28,497	20,482	31,940	44,942	57,956	71,969
New York	186,504	342,743	603,487	893,032	1,199,159	1,460,894	1,725,296	1,997,340
North Carolina	57,881	81,998	136,703	205,616	357,906	461,736	594,039	681,304
North Dakota	*	2,437	4,227	6,277	6,082	14,164	20,024	25,474
Ohio	160,792	156,980	230,525	358,965	436,766	580,078	710,355	821,935
Oklahoma	96,730	163,703	95,138	92,947	114,931	151,213	196,556	234,823
Oregon	27,062	44,186	76,839	93,242	158,048	199,549	275,449	318,460
Pennsylvania	71,926	79,892	176,670	263,236	376,439	516,488	631,717	772,276
Puerto Rico	*	*	*	*	*	*	22,732	32,063
Rhode Island	*	20,628	30,919	49,215	64,293	72,553	89,821	105,610
South Carolina	25,229	32,824	63,914	96,839	135,165	175,088	222,980	262,868
South Dakota	*	3,516	2,839	5,448	9,585	12,555	18,060	22,016
Tennessee	66,307	87,317	122,391	152,510	237,401	294,573	369,370	414,713
Texas	152,518	276,087	522,538	646,839	840,665	1,050,511	1,349,628	1,610,935
Utah	11,635	19,612	35,970	55,103	72,977	93,928	121,744	135,007
Vermont	*	1,551	7,773	16,230	21,795	29,990	32,814	39,773
Virgin Islands	0	*	*	*	*	*	*	*
Virginia	51,305	72,436	139,915	212,808	292,772	360,722	463,455	567,513
Washington	71,930	118,723	195,628	227,066	335,667	422,348	485,063	577,378
West Virginia	*	1,835	6,498	16,697	32,848	58,209	78,980	90,173
Wisconsin	18,599	34,262	76,257	127,755	182,395	257,099	335,991	401,995
Wyoming	*	*	*	*	7,856	10,990	14,696	17,507
Nationwide	2,754,286	4,367,434	7,069,874	9,616,341	12,792,812	16,202,540	19,881,549	23,459,671

* Data withheld to maintain firm confidentiality.

Table 9
ADSL High-Speed Lines by State
(Over 200 kbps in at Least One Direction)

	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003
Alabama	*	*	12,320	*	34,785	45,350	56,860	70,639
Alaska	0	0	0	*	7,975	11,337	14,295	14,013
Arizona	*	*	32,395	39,828	53,489	68,280	72,324	77,368
Arkansas	*	*	*	*	22,240	28,477	35,594	44,801
California	122,855	373,574	622,894	735,677	928,345	1,214,543	1,485,309	1,715,998
Colorado	*	*	42,810	52,617	70,615	100,197	113,040	126,189
Connecticut	*	*	22,348	30,142	41,261	61,093	100,722	124,742
Delaware	*	*	*	*	*	*	*	*
District of Columbia	*	*	*	16,313	*	28,723	35,466	39,471
Florida	*	37,806	115,133	170,702	306,015	391,188	521,623	644,621
Georgia	*	*	56,588	106,649	172,556	237,922	305,004	368,372
Hawaii	*	*	*	*	*	*	*	*
Idaho	*	*	*	*	13,643	16,108	17,930	19,382
Illinois	3,150	12,812	48,278	89,080	110,448	195,560	300,497	363,733
Indiana	*	*	6,442	2,375	22,385	36,685	63,463	85,968
Iowa	*	*	*	9,532	13,193	18,751	29,161	39,386
Kansas	0	*	14,281	*	23,564	28,713	39,315	50,839
Kentucky	5,690	*	16,327	20,256	43,191	55,454	55,254	75,316
Louisiana	*	*	22,788	37,444	58,019	73,120	86,359	100,919
Maine	0	*	*	6,877	*	*	8,432	11,052
Maryland	*	*	*	51,051	79,997	95,439	115,687	126,873
Massachusetts	*	15,802	53,700	82,699	125,630	147,139	181,426	207,344
Michigan	786	*	25,482	41,428	52,505	80,588	111,182	135,360
Minnesota	*	25,975	40,870	51,640	67,527	86,184	98,316	115,244
Mississippi	*	*	*	*	*	*	*	33,650
Missouri	*	*	38,759	53,250	68,186	84,642	114,861	138,046
Montana	*	*	1,760	2,842	4,272	7,108	6,549	13,119
Nebraska	*	*	*	9,293	13,637	11,547	16,117	18,285
Nevada	*	*	10,023	*	17,598	24,073	36,662	47,934
New Hampshire	*	*	3,339	5,651	9,618	11,781	14,630	17,823
New Jersey	*	*	59,332	102,430	151,829	172,472	197,615	211,540
New Mexico	*	*	*	7,578	*	18,224	22,607	26,948
New York	9,307	41,656	124,146	197,135	285,814	338,229	391,686	438,241
North Carolina	*	8,662	23,815	41,332	65,582	89,680	124,031	161,642
North Dakota	*	*	*	*	4,849	6,575	8,826	11,593
Ohio	*	33,603	55,046	87,567	112,527	151,612	205,140	243,689
Oklahoma	*	*	*	31,321	39,978	50,617	65,378	78,248
Oregon	*	19,989	31,644	25,877	57,899	68,747	82,555	95,654
Pennsylvania	7,377	18,313	60,083	89,595	136,829	162,258	200,501	230,322
Puerto Rico	0	0	0	*	*	*	*	*
Rhode Island	0	*	*	*	*	*	*	*
South Carolina	*	*	5,168	9,704	18,686	26,184	38,293	52,667
South Dakota	*	*	*	1,652	2,869	4,389	6,308	8,637
Tennessee	*	*	13,705	22,902	42,571	57,984	74,034	92,777
Texas	*	73,117	158,513	197,668	300,752	368,796	486,833	597,447
Utah	*	*	17,352	23,476	33,306	47,637	57,025	65,648
Vermont	0	*	*	*	*	9,409	12,062	15,072
Virgin Islands	0	0	0	*	*	*	*	*
Virginia	7,425	9,510	26,750	39,114	65,298	75,524	96,805	114,797
Washington	*	52,345	79,130	64,812	140,273	172,652	200,189	225,377
West Virginia	0	*	*	*	*	*	*	*
Wisconsin	*	1,063	8,623	17,800	28,233	42,052	64,521	84,100
Wyoming	*	*	*	*	*	*	*	5,503
Nationwide	369,792	951,583	1,977,101	2,693,834	3,947,808	5,101,493	6,471,716	7,675,114

* Data withheld to maintain firm confidentiality.

Table 10
Coaxial Cable High-Speed Lines by State
(Over 200 kbps in at Least One Direction)

	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	June 2002	Dec 2002	Jun 2003
Alabama	8,415	17,164	36,432	47,325	83,933	104,990	144,259	181,338
Alaska	0	0	0	0	*	*	*	*
Arizona	*	*	*	*	151,916	194,431	251,373	319,272
Arkansas	*	*	*	*	*	*	*	*
California	221,472	297,415	476,544	609,174	786,789	1,013,503	1,179,204	1,395,435
Colorado	*	*	*	*	*	*	*	181,766
Connecticut	28,702	47,127	78,234	106,019	137,003	160,913	192,155	227,658
Delaware	*	*	*	*	*	*	*	*
District of Columbia	*	*	*	*	*	*	*	*
Florida	110,000	129,830	255,978	372,190	486,977	595,806	741,426	867,513
Georgia	18,114	48,947	75,474	109,922	156,142	183,886	243,142	289,922
Hawaii	*	*	*	*	0	*	*	*
Idaho	0	*	*	*	*	*	*	*
Illinois	*	83,737	126,490	144,872	204,202	242,394	316,169	383,069
Indiana	7,412	33,431	37,052	56,441	78,837	98,414	114,237	122,338
Iowa	14,027	42,081	48,008	59,253	63,788	77,592	83,994	111,748
Kansas	*	*	48,541	74,337	94,047	111,615	142,563	181,437
Kentucky	*	*	*	*	*	12,867	22,113	23,672
Louisiana	*	*	*	64,219	88,851	115,198	*	189,920
Maine	*	*	*	*	*	*	*	*
Maryland	*	42,412	65,668	97,466	143,174	181,864	241,264	306,442
Massachusetts	*	148,233	210,019	243,670	339,244	391,391	453,473	564,961
Michigan	51,111	94,586	130,296	301,842	329,697	402,642	472,405	543,336
Minnesota	14,346	30,485	64,215	80,259	113,900	166,323	212,126	255,988
Mississippi	*	*	*	*	12,998	27,872	40,276	50,234
Missouri	*	16,482	42,255	51,733	89,370	110,026	117,403	191,658
Montana	0	*	*	*	*	*	*	*
Nebraska	*	*	*	37,168	49,939	73,306	92,261	111,903
Nevada	*	*	*	*	*	*	*	*
New Hampshire	*	*	*	*	*	*	*	95,612
New Jersey	*	*	*	*	375,362	454,750	578,337	690,620
New Mexico	0	0	*	*	*	*	*	38,004
New York	110,382	*	377,521	564,423	780,473	967,949	1,185,233	1,401,322
North Carolina	24,200	42,713	73,092	115,949	239,107	313,884	406,024	454,272
North Dakota	0	*	*	*	*	*	*	10,066
Ohio	*	*	127,692	213,606	264,031	363,675	435,404	508,458
Oklahoma	*	*	*	*	*	*	*	*
Oregon	*	*	*	*	*	*	165,343	197,794
Pennsylvania	34,878	38,340	85,104	131,119	190,915	300,840	376,611	482,471
Puerto Rico	0	0	0	0	0	0	*	*
Rhode Island	*	*	*	*	*	*	*	*
South Carolina	15,176	20,190	44,812	68,487	96,559	126,598	159,944	185,083
South Dakota	0	*	*	*	*	*	7,916	9,156
Tennessee	*	*	77,760	96,119	158,120	199,121	252,596	277,579
Texas	76,520	137,670	227,070	328,900	427,324	577,233	740,469	888,595
Utah	*	*	*	*	*	*	*	*
Vermont	*	*	*	*	*	*	*	*
Virgin Islands	0	0	0	0	0	0	0	0
Virginia	23,140	40,337	78,585	131,553	182,591	238,300	320,154	404,616
Washington	*	*	*	*	*	217,644	246,627	313,915
West Virginia	*	*	*	*	*	48,858	65,542	73,263
Wisconsin	*	*	*	*	*	189,585	243,043	287,519
Wyoming	0	0	*	*	*	*	*	*
Nationwide	1,411,977	2,284,491	3,582,874	5,184,141	7,059,598	9,172,895	11,369,087	13,684,225

* Data withheld to maintain firm confidentiality.

Table 11
High-Speed Lines by Type of User as of June 30, 2003
(Over 200 kbps in at Least One Direction)

	Residential & Small Business	Other [1]	Total
Alabama	246,373	37,573	283,946
Alaska	56,018	5,103	61,121
Arizona	427,448	17,731	445,179
Arkansas	123,138	5,173	128,311
California	2,994,812	461,869	3,456,681
Colorado	316,730	27,424	344,154
Connecticut	350,622	17,564	368,186
Delaware	47,712	7,318	55,030
District of Columbia	44,865	25,850	70,715
Florida	1,387,008	266,529	1,653,537
Georgia	601,791	166,269	768,060
Hawaii	*	*	*
Idaho	61,076	3,277	64,353
Illinois	758,891	112,578	871,469
Indiana	194,239	42,791	237,030
Iowa	154,371	7,886	162,257
Kansas	236,543	12,253	248,796
Kentucky	93,951	27,643	121,594
Louisiana	277,481	38,209	315,690
Maine	76,964	8,651	85,615
Maryland	401,976	67,850	469,826
Massachusetts	725,018	96,117	821,135
Michigan	683,706	53,049	736,755
Minnesota	377,701	22,669	400,370
Mississippi	80,297	15,814	96,111
Missouri	331,679	35,299	366,978
Montana	26,128	1,895	28,023
Nebraska	137,508	3,664	141,172
Nevada	189,378	20,354	209,732
New Hampshire	107,244	11,635	118,879
New Jersey	838,225	129,615	967,840
New Mexico	66,540	5,429	71,969
New York	1,728,124	269,216	1,997,340
North Carolina	596,289	85,015	681,304
North Dakota	24,411	1,063	25,474
Ohio	742,970	78,965	821,935
Oklahoma	220,584	14,239	234,823
Oregon	290,128	28,332	318,460
Pennsylvania	652,903	119,373	772,276
Puerto Rico	20,495	11,568	32,063
Rhode Island	95,900	9,710	105,610
South Carolina	233,556	29,312	262,868
South Dakota	20,985	1,031	22,016
Tennessee	361,510	53,203	414,713
Texas	1,464,934	146,001	1,610,935
Utah	125,890	9,117	135,007
Vermont	35,118	4,655	39,773
Virgin Islands	*	*	*
Virginia	492,714	74,799	567,513
Washington	509,981	67,397	577,378
West Virginia	82,005	8,168	90,173
Wisconsin	373,205	28,790	401,995
Wyoming	16,435	1,072	17,507
Nationwide	20,645,769	2,813,902	23,459,671

* Data witheld to maintain firm confidentiality.

[1] Other includes medium and large business, institutional, and government customers.

Table 12
Percentage of Zip Codes with High-Speed Lines in Service

Number of Providers	Dec 1999	Jun 2000	Dec 2000	Jun 2001	Dec 2001	Jun 2002	Dec 2002	Jun 2003
Zero	40.3 %	33.0 %	26.8 %	22.2 %	20.6 %	16.1 %	12.0 %	9.0 %
One	26.0	25.9	22.7	20.3	19.3	18.4	17.3	16.4
Two	15.5	17.8	18.4	16.7	15.7	16.2	16.8	16.9
Three	8.2	9.2	10.9	13.2	13.1	13.3	14.4	14.0
Four	4.3	4.9	6.1	8.2	9.1	9.6	10.3	10.6
Five	2.7	3.4	4.0	4.9	6.1	6.9	7.3	7.7
Six	1.7	2.5	3.0	3.6	4.2	4.6	5.0	5.3
Seven	0.8	1.7	2.3	2.8	3.2	3.2	3.9	4.0
Eight	0.3	0.8	2.0	2.2	2.5	2.8	2.7	3.1
Nine	0.2	0.4	1.6	1.9	2.0	2.4	2.2	2.5
Ten or More	0.0	0.4	2.4	3.9	4.0	6.4	8.0	10.5

CERTIFICATE OF SERVICE

I hereby certify that I have this 11th day of February, 2004 served a true and correct copy of the foregoing document upon parties of record, via the method(s) noted below, properly addressed as follows:

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