



Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Deployment of Wireline Services Offering
Advanced Telecommunications Capability

And

Implementation of the Local Competition
Provisions of the
Telecommunications Act of 1996

CC Docket No. 98-147

CC Docket No. 96-98

COMMENTS OF VERIZON

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Introduction and Summary

This *Sixth Further Notice* could serve as a model in a demonstration of regulatory creep. The Commission began five years ago to implement the Telecommunications Act of 1996 by looking at what an incumbent LEC must provide its competitors to facilitate local telephone competition. As envisioned by Congress and expected by everyone, the Commission concluded that ILECs had to provide local loops,¹ the “last mile” facility to the local customer, and it equally correctly rejected requests that ILECs be required to provide smaller pieces of the loop, what was then called “subloop unbundling.”² Since then, through a series of decisions, the Commission has required additional slicing and dicing of the local loop, line sharing and splitting and unbundling all sorts of subloops. Now in this latest notice, the Commission is

¹ *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 FCC Rcd 15499 ¶ 377 (1996).

² *Id.* ¶ 391.

considering further expanding its rules to extend to the broadband world the unbundling approach it developed for narrowband services. Whatever their merits for narrowband, this extension is both inconsistent with the Act and bad public policy.

Verizon³ urges the Commission to stop this extension now and to reject these additional unbundling requirements. They are not needed to stimulate local service competition. More important, they would skew investment decisions and deter innovation. These new requirements are especially harmful when applied to new, advanced services, services that it is in the public interest for Verizon and other LECs to deploy. Imposing additional burdens on these services — in particular, requiring that they be unbundled and the pieces sold at TELRIC prices — will only stifle their deployment.

The Commission should step back and reevaluate its current policies and not further extend existing rules — rules that have already been overextended. The attractiveness of the broadband market, coupled with continually improving technology, has already resulted in multiple broadband services to the home and office. Verizon's DSL service competes with cable operators' cable modem services as well as fixed wireless and satellite broadband in a marketplace that the Commission has found to be competitive.⁴ And the Commission should not

³ The Verizon telephone companies are the local exchange carriers affiliated with Verizon Communications Inc. shown on the attached list.

⁴ *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 15 FCC Rcd 11,857 ¶¶ 17-19 (2000); *Applications for Consent to Transfer Control of MediaOne to AT&T*, 15 FCC Rcd 9816 ¶ 116 (2000).

further regulate and burden ILECs' broadband offerings when those offerings lag far behind cable modem services, which serve more than 70% of all residential broadband customers.⁵

The section 251 regime was designed as a transition from a monopoly world to one in which there was facilities-based competition. Broadband service, however, is already at the section 251 end-state now — there is no monopoly provider, and there are multiple facilities-based providers that serve every segment of the market.

The competitive nature of this market means that any requests for additional unbundled network elements do not meet the “impair” standard of section 251(d)(2). If the broadband access market is competitive, then facilities are available outside the incumbent's network, and carriers seeking to provide that service are able to provide it without relying on ILEC facilities.⁶

A number of the technical arrangements discussed in paragraphs 59 through 64 of the *Sixth Further Notice* are dependent on the ILEC's having deployed certain new broadband capabilities and technologies that would result in an end-to-end packet transport offering where fiber-fed loops are deployed in the network. The Commission does not have the authority to compel an ILEC to provide services of this type. If an ILEC voluntarily decides to offer such a new service, it should not be required to unbundle it — and the Commission should protect such services from state efforts and actions to effect unbundling. If the Commission truly wants these

⁵ According to data released by the Commission on October 31, 2000, cable operators control 70% of all “residential and small business high-speed lines” — a total that understates cable operators' share of the residential market by including a class of business customers largely served by DSL. Industry Analysis Division, Common Carrier Bureau, *High-Speed Services for Internet Access: Subscriberhip as of June 30, 2000*, at Table 3 (Oct. 2000).

⁶ See *AT&T Corp. v. Iowa Utilities Bd.*, 525 U.S. 366, 389 (1999) (“The Commission cannot, consistent with the statute, blind itself to the availability of elements outside the incumbent's network”).

services deployed, then it must make it clear that carriers can deploy them without the fear that they will have to slice and dice them for their competitors.

The Commission should not look for more ways to micro-manage or micro-engineer an ILEC's network to facilitate another carrier's new service offerings. Regulation that seeks to design services or specify underlying technology stifles innovation and is poor public policy, especially when these rules preclude market pricing.

Rather, the Commission should seek to create a competitive environment where all carriers, ILEC and CLEC alike, have the incentive to create their own new network capabilities to support their deployment of services. Verizon is evaluating a potential wholesale service offering that CLECs could buy and has discussed it with these carriers at industry meetings. Such a service would be far less attractive for Verizon if the Commission required that it be unbundled and rebundled and offered at UNE prices. Even the fact that the Commission appears to be considering such a step could cause further work on it to be put on hold.

The Commission May Not Require ILECs To Provide Broadband Transport for CLECs.

The *Sixth Further Notice* explores how and on what basis the Commission might further extend its unbundling rules into the broadband world. The Commission should not add any such requirements because they would only create additional disincentives for ILECs to deploy broadband capabilities — why would an ILEC invest in broadband capabilities when it would just have to give them away to its competitors at non-compensatory rates.

The “impairment” test cannot be met for broadband transport. The broadband marketplace is competitive, and alternatives are available. The Commission has found “lack of

access to a non-proprietary network element ‘impairs’ a carrier’s ability to provide the service it seeks to offer” only if:

“taking into consideration the availability of alternative elements outside the incumbent LEC’s network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element materially diminishes a requesting carrier’s ability to provide the services it seeks to offer.”⁷

In making this determination,

“The Commission will consider the totality of the circumstances to determine whether an alternative to the incumbent LEC’s network element is available in such a manner that a requesting carrier can provide service using the alternative.”⁸

To do this, the Commission must consider evidence that other providers are already providing the telecommunications services in question. As then-Commissioner Powell explained:

“[U]nder the Court’s interpretation, the Act requires that the Commission, at a minimum, examine the extent to which elements are available from sources other than the incumbent.

“The availability of elements outside the incumbent’s network could potentially turn on many factors, such as the existence of vendors and distribution channels, the presence of competing facilities-based LECs and the price of non-incumbent elements relative to the requesting competitor’s ability to pay. These factors are likely to vary significantly from one market to the next. . . . It follows directly, then, that assessments of whether an element is necessary to provide service or whether failing to mandate access to that element would impair a new entrant’s ability to provide service will vary significantly among different markets, states, and regions.”⁹

Because competitors have alternative transmission options, the Commission may not require ILECs to provide such a transport UNE.

Many of the questions raised in the *Sixth Further Notice* are premised on the existence of a fiber transport facility between packet switching capabilities in ILEC central offices and the

⁷ 47 C.F.R. § 51.317(b)(1). *UNE Remand Order*, 15 FCC Rcd 3696 ¶ 52.

⁸ *Id.*

⁹ Separate Statement of Michael K. Powell, *Second FNPRM*.

DSLAM functionality in remote terminals. An infrastructure of this type, at this point, does not exist in Verizon's network.¹⁰ The Commission does not have the authority to require ILECs to upgrade their networks for CLECs by adding such facilities.

Section 251 of the Act requires only that a carrier provide access to existing network elements — there is no requirement that an ILEC must build new network capabilities for the purpose of unbundling that network for its competitors.¹¹ Similarly, the Act does not require that an ILEC build and unbundle a network that is superior to its existing network. As the Eighth Circuit held in 1997, “subsection 251(c)(3) implicitly requires unbundled access only to an incumbent LEC's *existing* network – not to a yet unbuilt superior one.”¹² And that court reaffirmed this conclusion again last year — “We again conclude the superior quality rules violate the plain language of the Act.”¹³ The Commission may not order the deployment of a broadband transmission capability so that it could then order it unbundled.

However, the Commission should want the ILECs to deploy these capabilities. It is the primary goal of the Commission to see to it that the American people have available the best and

¹⁰ ILECs will deploy DSLAM functionality only where it makes business and economic sense to do so. First, only some remote terminals are equipped with NGDLC that may be upgradeable. The rest have older generation subscriber carrier systems that may not be upgradeable at all or that cannot be upgraded without overlaying new equipment. Second, for DSL to be economical at a specific remote terminal, there must be a sufficient amount of DSL usage. Third, an ILEC would be required to perform a site-by-site evaluation of its remote terminal to determine if each could be used in this way (if spare channel banks are available for integrated line cards, spare fiber is available for transport to central office, power and environmental capacity are available, etc.). This architecture might be a practical method to economically deploy DSL capabilities at the remote terminal in certain situations, *i.e.*, where sufficient demand exists and the specific conditions of the remote terminal permit the deployment of DSL functionality. Finally, any level of deployment would depend of the ILEC's being able to recover its costs through compensatory rates.

¹¹ *Iowa Utilities Board v. FCC*, 120 F.3d 753, 812-13 (8th Cir. 1997).

¹² *Id.* at 813.

most advanced services. That this is the Commission's responsibility is repeated throughout the Act, whether one looks at section 1, section 7, section 254 or section 706 of the 1996 Act.¹⁴ It would be flatly inconsistent with these congressional requirements for the Commission to adopt new rules that create disincentives for ILECs to upgrade their networks.

If the Commission is going to require that any such new capabilities then be unbundled and offered at TELRIC prices, then no rational carrier would spend the money to deploy them. TELRIC pricing has a chilling effect on network investment and on modernization of the loop, inhibits competitive network growth, and consequently is poor public policy. Only where a carrier is given an opportunity to recover its costs and earn a return commensurate with the risk of deploying this technology would the carrier invest the money in them.

Rather, the Commission's rules should be modified to remove any disincentives to the deployment of these capabilities where it makes economic and business sense to do so. In particular, they should be modified to eliminate the need to unbundle packet switching capabilities associated with the provision of an end-to-end packet transport service to remote terminals.

**The Commission May Not Require the "Collocation" of Line Cards
and Should Not Do So Even if It Could.**

The *Sixth Further Notice* asks:

¹³ *Iowa Utilities Board v. FCC*, 219 F.3d 744, 758 (8th Cir. 2000).

Where a competitor collocates its DSLAM equipment at the remote terminal, it could carry its data traffic from the remote terminal to the central office through purchasing the dark fiber or feeder subloop unbundled network element offerings. May a requesting carrier physically or virtually collocate its line card at the remote terminal by installing it in the incumbent's DLC for the purposes of line sharing?¹⁵

Verizon showed earlier in this proceeding that a line card is not "equipment" that qualifies for collocation.¹⁶ The Act gives the Commission authority to order collocation only of "equipment" that is necessary for interconnection or access to UNEs. It does not require an ILEC to include CLEC-supplied components in the ILEC's own equipment. Line cards have no stand-alone function — they are useless without the associated hardware and software into which they are integrated. Therefore, line cards cannot be considered "equipment."¹⁷ In addition, line cards inserted into equipment at the remote terminal would not be used to access the subloop unbundled network element, because the DLC backplane is not an accessible terminal for obtaining access to the subloop UNE.

Moreover, the "collocation" of line cards alone would not accomplish anything. As a technical matter, merely placing line cards at the remote terminal would not make DSL at the remote terminal available. First, the remote terminal must be made DSL-capable. This requires

¹⁴ Section 1 ("so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges"); section 7 ("It shall be the policy of the United States to encourage the provision of new technologies and services to the public"); section 254 ("Access to advanced telecommunications and information services should be provided in all regions of the Nation."); section 706 ("The Commission and each State commission with regulatory jurisdiction over telecommunications services shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans").

¹⁵ *Sixth Further Notice* ¶ 56.

¹⁶ Comments of Verizon Telephone Companies at 8-12, Oct. 12, 2000.

additional hardware and software for the Verizon NGDLC electronics, as well as additional power, environmental conditioning, etc. In addition to the placement of DSL line cards in the NGDLC, the shelf must be equipped with high-speed broadband cards to support the multiplexing, concentration and packet transport of data back to the central office. The NGDLC system must also be upgraded with new software capable of supporting ADSL services. In most cases, the DSL line cards must be concentrated on an DSL-capable channel bank shelf and not interspersed with existing POTS services. This is because DSL typically requires special powering arrangements to the shelves that are not present with POTS. In addition to the remote terminal upgrades, spare fiber between the remote terminal and central office is required to transport data back to the central office. At the serving central office, individual carriers cannot access their customers' data traffic without the addition of an Optical Concentration Device to aggregate customer data and provide a high-speed handoff to a data provider's collocation arrangement.

In addition, line card manufacturers have made very clear that they have no ability to independently produce line cards meeting various carriers' requirements for insertion into equipment at incumbents' remote terminals. As part of the Commission's forum concerning remote terminal collocation, Alcatel referred to the concept of a "universal backplane"¹⁸ which

¹⁷ A line card associated with a collocator's equipment may be considered integral to its own equipment, but there is no statutory authority allowing a collocator to integrate a line card into an incumbent's equipment.

¹⁸ The "backplane" corresponds to the fourth function identified in the Commission's definition of a DSLAM, *i.e.* "the ability to combine data units from multiple loops onto one or more trunks that connect to a packet switch or packet switches." To mandate a "universal backplane" would have the paradoxical result of telling manufacturers how to design their equipment regarding this important function when, purportedly, the purpose of the order is to encourage diversity in engineering design and solutions.

would accommodate multiple types of line cards as “laughable.”¹⁹ Likewise, Lucent commented that development of a universal back plane would not only be extremely time consuming, it would also require a redesign of “the whole system management and integration.”²⁰ Copper Mountain concurred, calling the required modifications “ludicrous.”²¹ In short, all of the manufacturers who appeared before the Commission testified that the concept of attaching disparate line cards to incumbents’ equipment is not viable. This is not surprising, because each vendor wants to be able to differentiate its equipment from that of its competitors by offering unique features and functions, rather than allowing one size to fit all. And, as the manufacturers pointed out, each line card must be compatible with the overall design of the system with which it is to be used, including the software. Allowing carriers to install their own line cards in ILEC remote terminals, therefore, will not stimulate innovation by carriers or equipment manufacturers.

Finally, allowing the “collocation of line cards is a bad idea. Allowing multiple carriers to install their DSL line cards would make highly inefficient use of Verizon equipment and increase costs for both the competitors and Verizon’s own customers. This is because each individual line card in a remote terminal gives access to multiple circuits for both voice and data functions.²² If each carrier supplied its own cards, dedicated to its use, multiple voice and data circuits in each remote terminal would need to be dedicated to that carrier and would be unavailable for any other customer. It can be expected that many, if not most, carriers would

¹⁹ Public Forum: Competitive Access to Next-Generation Remote Terminals (May 10, 2000). See <http://www.fcc.gov/ccb/nsd/documents/NEXTGEN.HTML>, Transcript at 108.

²⁰ *Id.* at 110.

²¹ *Id.* at 111.

have no use for all of those circuits in every remote terminal to which it connects. The resulting unused capacity would significantly reduce efficient use of the network, thereby increasing costs, and at worst strain the available network capacity. By making inefficient use of the equipment that the incumbent has installed in the remote terminal, such an arrangement would allow fewer customers to be served, because there will simply be no room in the remote terminal to install additional equipment to serve those customers.

The Commission Should Not Force Fiber Sharing into Its Existing Rules.

In paragraphs 60 and 61 of the *Sixth Further Notice*, the Commission asks a series of questions concerning what an ILEC might do to make line sharing possible over fiber. As shown above, the Commission may not require the deployment of new network capabilities in order to unbundle them. Instead of pursuing this inquiry, the Commission should focus on providing the ILECs with incentives to deploy new and innovative capabilities by eliminating the need to unbundle these capabilities and by allowing them to be proceed in a manner that is compensatory with the associated risk.

In particular, the Commission first asks:

Is it technically feasible for competitors and incumbents to share the fiber feeder between the remote terminal and the central office? What are the implications of defining such transmission paths as part of the loop?²³

From a technical perspective, it is necessary to define what is meant “to share the same fiber feeder.” For instance, there is a difference if the Commission is assuming that the shared fiber would be the physical facility (*e.g.*, the fiber strand operating at an OC3 capacity and connected to an ILEC’s NGDLC) or the capacity within that strand (*e.g.*, a specific multiplexed

²² For example, future Alcatel Litespan line cards will be capable of supporting four voice and four data channels.

capacity riding that fiber strand and connected to a specific application). In the first instance, it is not technically feasible to share that fiber strand based on Verizon's existing network configurations. In the second case, it is feasible to have multiple channels riding the same fiber and to provide various carriers with dedicated capacity to transport their data signals with other capacity used for other services.

It might be possible to carry DSL traffic on the same fiber feeder transmission medium with other traffic at the remote terminal, such as voice traffic. However, this arrangement is technically feasible only with some specific vendor implementations of DSL at their remote terminal products. In addition, this combination of DSL traffic with other services has certain limitations. First, there must be sufficient capacity on the fiber feeder transmission medium and supporting multiplexers and electronics to allow mixing DSL traffic on the same transport system with other services. Second, this approach requires that the ATM traffic be mapped into a DS1 or DS3 signal, which is then multiplexed onto the fiber transport system. If the ATM traffic is contained within DS1 signals, then the DSL services are limited to 1.5 Mbps or less, and higher DSL rates would not be possible. At the central office, the DS1 and DS3 signals must be demultiplexed back to DS1s or DS3s and handed off to the appropriate carrier, probably at a collocation arrangement. As a general rule, this approach is less efficient at the remote terminal than at the central office, since ATM cells are multiplexed into lower speed signals, resulting in additional and unnecessary overhead that must be transported and processed back at the central office.

²³ *Sixth Further Notice* ¶ 60-61.

The Commission then asks whether joint use of the fiber feeder between the central office and the remote terminal falls within the definition of the local loop UNE.²⁴ It does not, because the loop is defined only as a transmission path between the central office and the end user customer,²⁵ not between central office and remote terminal.

Nor is such an arrangement within the Commission's definition of shared transport, as the *Sixth Further Notice* suggests.²⁶ The Commission has defined shared transport as:

“transmission facilities shared by more than one carrier, including the incumbent LEC, between end office switches, between end office switches and tandem switches, and between tandem switches, in the incumbent LEC network.”²⁷

Access to fiber feeder between the remote terminal and the central office does not fit this definition. In this connection, the Commission asks if it can just “consider” the remote terminal to be an “end office switch” for purposes of this rule.²⁸ While the Queen of Hearts could say that a word “means just what I choose it to mean — neither more nor less,”²⁹ such creative redefinition of well known words is not appropriate for the Commission. More important, there is absolutely no similarity between the equipment at a remote terminal and an end office switch (*e.g.*, a remote terminal does not interpret dialed digits and route traffic accordingly).

²⁴ *Sixth Further Notice* ¶ 60-61.

²⁵ The Commission defines a local loop as:

“a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises, including inside wire owned by the incumbent LEC. The local loop network element includes all features, functions, and capabilities of such transmission facility.”

47 C.F.R. § 51.319(a)(1).

²⁶ *Sixth Further Notice* ¶ 62.

²⁷ 47 C.F.R. § 51.319(d)(1)(iii).

²⁸ *Sixth Further Notice* ¶ 62.

²⁹ Carroll, Lewis, ALICE THROUGH THE LOOKING GLASS, chap. 6.

There would also be practical problems if this were considered to be shared transport. That UNE is priced on a measured basis³⁰. However, there is no way for Verizon to measure the amount of usage — individual packets of data — over a fiber feeder. The industry standard method for recovering fast packet service costs is through the application of Permanent Virtual Circuit (PVC) charges. This is the approach that was adopted by SBC for Project Pronto and clearly is the most compatible with packet switching technology.

Data from multiple carriers can be transported from their customers at the remote terminal to the central office on the same physical facilities if the ILEC provides an end-to-end packet transport service.³¹ When a carrier purchases access to the ATM switch at the central office, it also receives the same functionality as it would get from a shared transport arrangement.

Dark Fiber as an Alternative.

The *Sixth Further Notice* asks about the availability of dark fiber.³² Verizon has not inventoried whether dark fiber is readily available where there is fiber in the loop. Where dark fiber does exist, it is an alternative for a CLEC that collocates a DSLAM at the remote terminal to permit it to carry its data traffic to the central office.

³⁰ Transmission between switches is circuit switched. Under circuit switched technology, a dedicated path is established for a measured duration of time as the result of the digits dialed by the end user. The circuit switch is able to measure the event and generate an AMA record that then becomes the basis for a bill. In contrast, the data transmission between an remote terminal and the central office is based on packet switching technology. Packet switching breaks the data transmission into packets of data, with each packet having a destination address. Each packet switch reads the address on the packet, and routes the packet forward toward the packet's destination. In general, no fixed amount of bandwidth is allocated for a fixed period of time. Accordingly, no AMA record is generated that records the duration of a session or the bandwidth allocated as no such session exists.

³¹ *Sixth Further Notice* ¶ 63.

³² *Sixth Further Notice* ¶ 57.

A CLEC, of course, does not need transmission from the ILEC to reach the accessible terminal from the central office or from any other location. It can accomplish that with its own facilities or those it obtains from one of the many other providers of fiber services. As a result, the statutory “impairment” test cannot be met for such transport.

Migration of Customers Is a Satisfactory Option.

The *Sixth Further Notice* asks:

Is it viable for the incumbent LEC to migrate the customer served by the DLC onto an all-copper loop, if available? Does the service disruption that would ensue as the voice customer was migrated from the DLC to copper loop make this a less desirable option?³³

A copper loop is a viable alternative for a CLEC where such facilities exist. Although the Act does not require ILECs to change customers from one facility to another in these circumstances, Verizon generally tries to accommodate CLECs and their customers by doing so.

The *Sixth Further Notice* seems to assume that this process inherently involves a disruption of service. Verizon has been transferring customers’ service from one facility to another as a normal part of its operations for years. Any disruption that might result would not be of a magnitude that would make this an infeasible alternative.

The Commission May Not Require New UNE Combinations.

The Commission asks whether it should require an arrangement like UNE-platform for competitors to use to provide line-shared data services.³⁴ Plainly, it may not and should not for all the reasons discussed above.

³³ *Sixth Further Notice* ¶ 58.

³⁴ *Sixth Further Notice* ¶ 64.

Verizon is evaluating a potential wholesale service offering that these carriers could buy for this purpose. There is no public benefit to be achieved by requiring Verizon to unbundle that service, only to put it back together again in the form of a “data UNE platform.” The terms and conditions that accompany the deployment of the original service are sufficient to address the “access” need identified in this Notice.

Conclusion

The Commission should put an end to this proceeding without requiring ILECs to engage in further unbundling of their broadband networks. Rather, the Commission should encourage ILECs to develop wholesale broadband services by creating the regulatory environment that promotes the deployment of the new technologies. The steps suggested in the Notice cannot be required under the Act and are bad public policy in any event because they would inhibit the deployment of new technologies and innovation in new services by carriers.

Respectfully submitted,

/S/

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THE VERIZON TELEPHONE COMPANIES

The Verizon telephone companies are the local exchange carriers affiliated with Verizon Communications Inc. These are:

Contel of Minnesota, Inc. d/b/a Verizon Minnesota
Contel of the South, Inc. d/b/a Verizon Mid-States
GTE Alaska Incorporated d/b/a Verizon Alaska
GTE Arkansas Incorporated d/b/a Verizon Arkansas
GTE Midwest Incorporated d/b/a Verizon Midwest
GTE Southwest Incorporated d/b/a Verizon Southwest
The Micronesian Telecommunications Corporation
Verizon California Inc.
Verizon Delaware Inc.
Verizon Florida Inc.
Verizon Hawaii Inc.
Verizon Maryland Inc.
Verizon New England Inc.
Verizon New Jersey Inc.
Verizon New York Inc.
Verizon North Inc.
Verizon Northwest Inc.
Verizon Pennsylvania Inc.
Verizon South Inc.
Verizon Virginia Inc.
Verizon Washington, DC Inc.
Verizon West Coast Inc.
Verizon West Virginia Inc.