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

In the Matter of:	)	
	)	
Verizon's Petition for a Declaratory Ruling or,	)	WC Docket No. 04-242
Alternatively, Interim Waiver and Verizon's	)	
Conditional Petition for Forbearance Under	)	
47 U.S.C. § 160(c) with Regard to Broadband	)	
Services Provided Via Fiber to the Premises	)	

COMMENTS OF CORNING INCORPORATED

Corning Incorporated ("Corning") hereby submits the following comments in response to the above-captioned Verizon petitions.[1] In those petitions, Verizon asks the Commission to enable it to offer broadband services that are provided via fiber to the premises ("FTTP") in the same manner that cable companies offer broadband services via cable modem – that is, without being subject to Title II regulation. For the reasons set forth below, Corning urges the Commission promptly to grant the relief Verizon seeks.

I. INTRODUCTION AND SUMMARY

Corning supplies leading edge technologies for a number of sectors of the economy, including the telecommunications, computing display, and semi-conductor industries, and has a history of innovation in each of these segments. In the telecommunications industry, Corning is the inventor of low-loss optical fiber, and is the largest U.S. producer of optical fiber and optical cable. As a result, Corning has substantial experience in the provisioning, implementation, and economics of fiber optic telecommunications networks.

[1] Public notice of the petitions was given by DA 04-2006 (July 1, 2004).

With its decision in the *Triennial Review Order*, the Commission has created a significant opportunity for growth in next-generation broadband networks.[2] Because of that decision, a major U.S. telecommunications company has been freed to make a large investment in next-generation infrastructure and is making that investment. Corning can attest to the fact that the investment is occurring and is not a mere claim. If that investment succeeds, it will create a new standard for broadband service in America, causing other providers to respond with their own investments in next-generation broadband technology. The result will be a dramatic increase in the number and quality of broadband services available to U.S. consumers, the investment dollars flowing into the U.S. economy, and our ability to compete internationally in a variety of industries which utilize broadband services in the development or production of goods or services. For those reasons, and as further detailed herein, the Commission should encourage Verizon's bold action by continuing the light touch of regulation initiated in the *Triennial Review Order*. Accordingly, Corning urges the Commission to grant Verizon the same regulatory light touch it seeks for FTTP broadband service as is currently afforded cable modem service.

II. THE COMMISSION'S REGULATORY LIGHT TOUCH ON FTTP IS HAVING THE DESIRED EFFECT ON INVESTMENT IN NEXT-GENERATION BROADBAND NETWORKS.

The Commission ruled in its August 2003 *Triennial Review Order* ("TRO") that a light regulatory touch is appropriate for fiber to the home ("FTTH"). Specifically, the Commission stated that the unbundling requirements of Section 251 would not apply to FTTH. In particular, the Commission relieved FTTH in "new build" situations completely from the unbundling

[2] In the Triennial Review Order, the Commission distinguished between a hybrid network and a next-generation network, defining a next-generation network as "those loops that make use of fiber optic cables and electronic or optical equipment capable of supporting truly broadband transmission capabilities…" *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978, 17141 (2003), *vacated in part and remanded, USTA v. FCC*, 359 F.3d 554 (D.C. Cir. 2004), *petitions for cert. pending*.

obligations that apply to copper and hybrid loops. It also granted complete relief from unbundling in "overbuild" situations, provided the copper loop remains in place, although no maintenance is required of such loop unless a competitive local exchange carrier ("CLEC") requests the use of it. Alternatively, the copper loop can be retired, provided the incumbent local exchange carrier ("ILEC") makes available to CLECs a 64 kilobit per second channel over the fiber to allow the delivery of voice service.

In making the decision to extend an extraordinary level of deregulation to FTTH, the Commission noted that declining to attach unbundling requirements to FTTH would encourage incumbent LECs to expand their deployment of next-generation networks. "The end result," the Commission said, "is that consumers will benefit from this race to build next-generation networks and the increased competition in the delivery of broadband services."[3]

This extraordinary level of regulatory relief would apply to the FTTP architecture deployed by Verizon because it conforms to the definition of a FTTH loop in the Commission's regulations.[4] As required in the definition of a FTTH loop, a FTTP loop is a local loop consisting entirely of a fiber optic cable that serves an end user's customer premises. To avoid confusion, we will use the term FTTP throughout this document.[5]

The Commission's decision on FTTP was a bold move. The decision recognized the value of FTTP as a next-generation technology, and it recognized the substantial incentive necessary to encourage ILECs to make this significant investment in a time of severe budget restrictions. The first fruit of the Commission's decision – Verizon's initial FTTP investment –

---

[3] TRO, ¶ 272.

[4] See 47 C.F.R. § 51.319(a)(3).

[5] Verizon uses the term "fiber to the premises" or "FTTP" as a more inclusive term encompassing both homes and businesses.

is now beginning to appear, less than one year after the written order was handed down. Specifically, Verizon has embarked upon a 1-million home, $1 billion FTTP build out, the largest deployment of its kind in our nation's history. According to Verizon Chief Executive Officer Ivan Seidenberg, this investment is the start of the "all-broadband, all-the-time lifestyle" and "the beginning of a communications revolution."[6] For Verizon, this investment represents more than eight percent of the company's capital expenditure budget for 2004. Moreover, Verizon has stated its intention to double its FTTP investment in 2005 with a $2 billion, 2 million home deployment.

We can scarcely overemphasize the significance of Verizon's FTTP investment to the development of U.S. next-generation broadband infrastructure. This action by one company will increase total U.S. FTTP deployment several fold. As of October 2003, the total number of "homes passed" with optical fiber in the United States was an estimated 189,000.[7] Therefore, Verizon's 1-million home deployment will increase the total U.S. figure 500% in one year alone.

Moreover, the bandwidth capacity of this network will leap ahead of today's leading broadband technologies, cable modem and digital subscriber lines ("DSL"). Verizon has announced that its initial broadband offering will be a tiered service of up to 30 megabits per second downstream and 10 megabits per second upstream. This represents an entirely new bandwidth platform allowing subscribers to send and receive data in amounts far in excess of that possible over current generation technologies. As a key equipment supplier to Verizon in this deployment, Corning is very familiar with Verizon's FTTP activity and believes Verizon is well-positioned to meet its 1-million home goal. Nine communities across the United States will

---

[6] *See* "Is the Most Powerful Man in Telecom Pulling a Megabluff?" *Fortune*, May 31, 2004, p. 120.

[7] Render, Vanderslice and Associates, "North American FTTH/FTTP Market Update," July 2004.

be the focus of Verizon's current deployment, starting with Keller, Texas, where Verizon plans to begin offering FTTP-delivered services within the next two months.

Corning firmly believes that Verizon's FTTP deployment would not have occurred on any significant scale – and perhaps not at all -- had the Commission not excluded FTTP from unbundling requirements. Corning's basis for this judgment is empirical analysis performed by the Cambridge Strategic Management Group ("CSMG") in 2003 and presented to the Commission in the course of the Triennial Review proceeding.[8] The crux of CSMG's analysis was that, to consider investment in FTTP worthwhile, ILECs would require an assurance that the additional revenue possible from FTTP-delivered services would be free from dilution by competitors claiming unbundled access to the new network. Otherwise, CSMG said, the economic justification for the FTTP investment would not exist.

Fortunately, the Commission agreed with the CSMG analysis and other evidence arguing for FTTP deregulation. As a result of the Commission's decision not to extend unbundling to FTTP, the United States is seeing its first major deployment of next-generation broadband technology. More importantly, we are now on the cusp of real competition in American communications: telephone companies and cable companies both offering a robust package of voice, video and data services.

III. RATIONAL AND CONSISTENT REGULATION OF NEXT-GENERATION TECHNOLOGIES CALLS FOR A LIGHT TOUCH.

Verizon's petitions seek to place it in the same competitive posture as cable companies offering an identical mix of video, high-speed data, and voice services. In particular, Verizon asks the Commission to grant it relief – whether through declaratory ruling, waiver, or

[8] *See* "Assessing the Impact of Regulation on Deployment of Fiber to the Home," Cambridge Strategic Management Group, April 5, 2002.

forbearance – enabling it to provide broadband services via FTTP without tariffs or cost-based rates and with the flexibility to provide broadband transmission to ISPs on individually negotiated terms. As Verizon notes, this is the same relief the Commission already has granted cable companies in the *Cable Modem Declaratory Ruling*.[9]

The Commission not only should, but must, grant the relief Verizon seeks. In a competitive market such as broadband, it would be irrational to impose disparate regulatory treatment on identical services which are offered in an identical manner, based solely on the identity of the service provider. Regulatory burdens should be imposed only to counteract market power[10] – and Verizon not only does not possess such power in the provision of broadband services, but it has no prospect of obtaining it given the lead of other providers and the multitude of independent competitive platforms.

The legal foundation for granting Verizon's request for parity is persuasively set out in the Memorandum of Points and Authorities attached to its Petitions. First, the *Cable Modem Declaratory Ruling*, by its terms, appears already to cover broadband services offered over FTTP by a telephone company that has obtained cable franchises.[11] Second, even if the Commission for some reason were unwilling to grant the requested declaratory ruling, waiver of the relevant

---

[9] Memorandum of Points and Authorities in Support of Verizon's Petition for Declaratory Ruling or Interim Waiver and Conditional Petition for Forbearance with Respect to Broadband Services Provided via Fiber to the Premises, at 1-4 ("Memorandum of Points and Authorities"), *citing* Declaratory Ruling and Notice of Proposed Rulemaking, *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd 4798 (2002) ("*Cable Modem Declaratory Ruling*"), *vacated in part, Brand X Internet Services v. FCC*, 345 F.3d 1120 (9th Cir. 2003), *petitions for cert. pending*.

[10] As Chairman Powell has cautioned, regulation is a "fundamental intrusion on free markets and potentially destructive, particularly where innovation and experimentation are hallmarks of an emerging market." Consequently, "[s]uch interference should be undertaken only where there is weighty and extensive evidence of abuse." Remarks of Michael K. Powell at the Silicon Flatirons Symposium, "The Digital Broaband Migration: Toward a Regulatory Regime for the Internet Age," at 4 (Feb. 8, 2004).

[11] Memorandum of Points and Authorities at 6-12.

Title II requirements is justified because the agency already has granted similar waivers to cable operators providing identical services, there is no technical or marketplace reason to deny such relief to Verizon, and imposition of Title II requirements on broadband services offered over FTTP would deter investment and restrain competition.[12] Third, and in any event, the statutory standard for mandatory forbearance is satisfied given the competitiveness of the broadband market and the public interest benefits flowing from the elimination of regulatory obstacles to broadband deployment.[13] Accordingly, the Commission should expeditiously grant Verizon the relief it seeks.

IV. THE COMMISSION'S DECISION WILL HAVE AN IMPACT BEYOND VERIZON.

FTTP is the first next-generation broadband technology to emerge past field trials and small, scattered deployments. Although still in its infancy, FTTP has proven out in the last few years and is now deployed in some 128 communities around the United States.[14] Until Verizon's 2004 deployment, FTTP had been deployed primarily by a mix of CLECs, overbuilders, new home developers, municipalities, and rural local exchange carriers.[15] Now, with Verizon's on-going deployment and SBC's recent announcement that it will begin to deploy FTTP in "greenfield" scenarios, it is clear that major telephone companies see FTTP as a platform for the delivery of "triple play" voice, video and data services.

As described above, FTTP provides very robust service offerings. In Verizon's case, consumers will be able to subscribe to FTTP broadband service of up to 30 mbps downstream

---

[12] *Id.* at 15-18.

[13] *Id.* at 18-22.

[14] *See* Render, Vanderslice and Associates, "North American FTTH/FTTP Market Update," July 2004.

[15] *Id.*

and 10 mbps upstream – at least ten times faster than the typical cable modem or DSL offering. (See Diagram 1 for a graphic illustration of the comparison between FTTP and current generation technologies using concentric circles to represent technologies and applications.)

For those fortunate consumers included in Verizon's FTTP deployment, this will likely mark the first opportunity to enjoy a truly fast broadband service enabling high quality applications. In other communities where FTTP has been deployed, subscribers have demonstrated how they will use mega bandwidth to improve their lives. In Provo, Utah, residents participate from their homes in live or pre-recorded sessions in area college classes and can access video-on-demand of high school sports and plays.[16] In Woodburn, Oregon, an Internet Protocol-based network of security cameras has been established to guard homes and businesses.[17] Small health clinics in Chelan and Clallum Counties in Washington State use their network to send X-ray images and triage video to distant hospitals for consults.[18] And in Grant County, Washington a local chemical plant has reduced executive visits to headquarters in Sweden from once a month to twice a year by using video conferencing.[19]

The Commission must be aware that the success or failure of Verizon's current FTTP deployment will largely determine the pace at which next-generation broadband infrastructure is built in the United States for years to come. By their own admission, other ILECs are watching Verizon's deployment to determine if they should follow suit, and we believe a number of cable providers are doing the same. If Verizon's FTTP deployment is successful, it is likely to spur

---

[16] Oral presentation by Michael Render, Render, Vanderslice and Associates, July 7, 2004.

[17] *Id.*

[18] *Id.*

[19] *See* "Great Needs, Unique Advantages: Fiber-to-the-Home Drives Economic Development in Grant County Washington," OPASTCO Roundtable, July, August 2002, at 50-51.

similar activity by other companies that will deliver a big boost to the U.S. economy. The effect of such activity would be hugely stimulative for the U.S. economy. Washington, D.C.-based Criterion Economics has estimated that the incremental investment of "more advanced access technologies" (e.g., FTTP) that would result from favorable regulatory policy would total approximately $93 billion through 2021, averaging $4.9 billion per year during that period.[20] Criterion also estimates that such an investment would generate an average of 89,000 jobs sustained per year through 2021.

The speed with which the United States moves to next-generation infrastructure also is likely to have a significant impact upon our international competitiveness. Japan and Europe are already significantly ahead of the United States in this regard, with 1 million and 450,000 FTTP subscribers respectively, compared to 78,000 American FTTP subscribers to date.[21] The prospect of other nations having access to the efficiencies of next-generation networks while Americans remain tied to current generation technologies is not a pleasant one. Beyond question, such a disparity would give our international competitors certain advantages in the workplace and provide them with life-improving applications for the home that our citizens would not enjoy.

[20] "The Effects of Ubiquitous Broadband Adoption on Investment, Jobs and the U.S. Economy," Criterion Economics, L.L.C., September 2003.

[21] Render, Vanderslice and Associates, "North American FTTH/FTTP Market Update," July 2004.

V. CONCLUSION

For the foregoing reasons, Corning urges the Commission promptly to grant the relief Verizon seeks in order to spur continued investment in critical, next-generation broadband technologies.

Respectfully submitted,

CORNING INCORPORATED

By: /s/ Timothy J. Regan
Timothy J. Regan
Senior Vice President, Government Affairs
1350 I Street, N.W.
Suite 500
Washington, D.C. 20005-3305

/s/ Stanley G. Fendley
Stanley G. Fendley
Director, Legislative and Regulatory Policy
1350 I Street, N.W.
Suite 500
Washington, D.C. 20005-3305

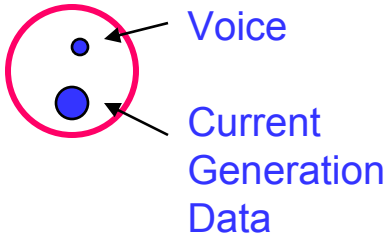
July 22, 2004

Attachment 1

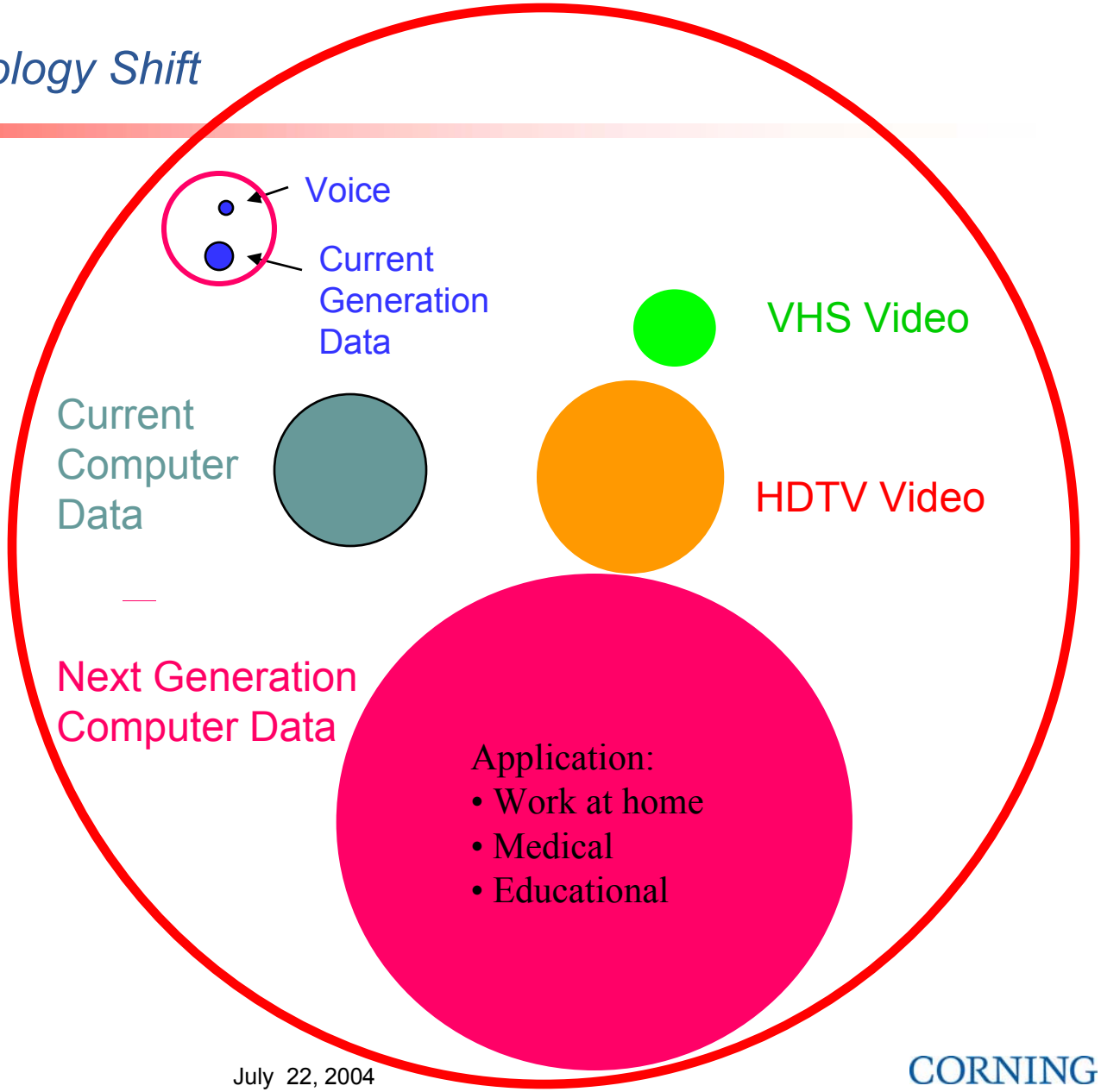
Future Vision:

A Fundamental Technology Shift

Current Generation Broadband (DSL and Cable Modem)



Next Generation Broadband (Fiber to the Premises)



Legend:
- Voice (64 Kbps)
- Current Generation Data (1.5 Mbps)
- VHS Video (3.7 Mbps)
- HDTV Video (20 Mbps)
- Current Computer Data (10 Mbps)
- Next Generation Computer Data (100 Mbps)