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1-00030099 Agg DC
1/28/04

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November 14, 2003

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VIA HAND DELIVERY

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Re: Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. I-00030099

Dear Secretary McNulty:

On behalf of Sprint Communications Company, L.P., (hereinafter "Sprint"), enclosed please find an original and three (3) copies of Sprint's responses to Preliminary Discovery Requests propounded by the Commission on October 3, 2003 in the above-referenced proceeding.

The enclosed responses are provided by Sprint as a certificated Competitive Local Exchange Carrier (CLEC) currently providing local service in Pennsylvania. While Sprint does lease dark fiber facilities for the provision of long distance service, Sprint does not own or lease any switching, transport or high-capacity loop facilities for the provision of local service in Pennsylvania. Therefore, Sprint has marked the individual interrogatory responses as "Not Applicable".

Should you have any questions regarding this letter or the attached diskette, please contact me by phone at (717) 245-6346 or by email at sue.e.benedek@mail.sprint.com. Thank you.

Sincerely,

Sue Benedek

ZEB/jh
enclosures
cc: Certificate of Service (via electronic and first-class mail)

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**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Switching - 1:

Provide a list of all switches that you currently use to provide a qualifying service (as defined in 47 C.F.R. § 51.5, as that section will be amended by the Final Rules issued by the FCC pursuant to the *Triennial Review Order*) anywhere in Pennsylvania, regardless of whether the switch itself is located in Pennsylvania. Do not include ILEC switches utilized by you on an unbundled basis in the ILEC's service territory or through the resale of the incumbent's services at wholesale rates.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
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Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Switching - 2:

Provide a list of all switches that you currently use to provide a qualifying service (as defined in 47 C.F.R. § 51.5, as that section will be amended by the Final Rules issued by the FCC pursuant to the *Triennial Review Order*) anywhere in Pennsylvania, regardless of whether the switch itself is located in Pennsylvania. Do not include ILEC switches utilized by you on an unbundled basis in the ILEC's service territory or through the resale of the incumbent's services at wholesale rates.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
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Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Switching - 3:

For each ILEC wire center identified in response to Question 2, identify the total number of voice-grade equivalent lines you are providing to customers in that wire center from your switch(es) identified in response to Question 1. For purposes of this question, "voice-grade equivalent lines" should be defined consistent with the FCC's use of the term. *See, e.g. FCC Form 477, Instructions for the Local Competition and Broadband Reporting Form.*

Response:

Not applicable.

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Docket No. - I-00030099**

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Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Switching - 4:

For each ILEC wire center identified in response to Question 2, identify the total number of voice-grade equivalent lines you are providing to customers in that wire center from your switch(es) identified in response to Question 1. For purposes of this question, "voice-grade equivalent lines" should be defined consistent with the FCC's use of the term. *See, e.g. FCC Form 477, Instructions for the Local Competition and Broadband Reporting Form.*

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
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Sponsoring Witness: Gerald Flurer

Switching - 5:

With respect to the voice-grade equivalent lines identified in response to Question 3, separately indicate the number being provided to (a) residential customers; (b) business customers to whom you provide only voice-grade or DS0 lines; and (c) business customers to whom you provide DS1, ISDN-PRI, or other high capacity lines. For purposes of this question, "high capacity" means DS1 or equivalent or higher capacity lines, including, but not limited to DS1, ISDN-PRI, DS3, OCn.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
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Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Switching - 6:

For each of the switches identified in your response to Question 1, state whether the switch is owned by you, or whether you have leased the switching capacity or otherwise obtained the right to use the switch on some non-ownership basis. If the facility is not owned by you, identify the entity owning the switch and (if different) the entity with which you entered into the lease or other arrangement, identify the nature of the arrangement, and state whether such entity or entities are affiliates of yours, in the sense defined in ¶ 408, footnote 1263 of the *Triennial Review Order*.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
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Docket No. - I-00030099**

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Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Switching - 7:

Provide a list of all switches from which you offer or provide switching capacity to another local service provider for use in providing qualifying service anywhere in Pennsylvania.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
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Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 1:

For each ILEC, Identify, by name, address, and CLLI code, each ILEC wire center (by the name, address, and CLLI code of that wire center) in which you have established a collocation arrangement or in which such arrangements have been ordered.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 2:

For each wire center identified in your response to Question 1, provide the number of arrangements by wire center, identify the transport facilities that currently serve such collocation arrangement (or that will serve such arrangement and that you are currently in the process of constructing, ordering, purchasing, or arranging for the use of). For purposes of this Question, “transport facilities” (a) does not include unbundled facilities obtained from the petitioning ILEC, and (b) does include dark fiber.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 3:

For each transport facility identified in the response to Question 2, identify the transport technology utilized (*e.g.*, fiber optic (specify whether dark or lit), microwave, radio, or coaxial cable), and the quantity/capacity of the facility deployed.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 4:

For each wire center and transport technology identified in the responses to Questions 1-3, identify the type of termination equipment utilized in the collocation arrangement.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 5:

For each transport facility identified in your response to Question 2, state whether the facility is owned by you or whether you acquired rights to utilize it under a lease or other some other form of non-ownership arrangement. (If the facility was provisioned through the use of dark fiber that you acquired and subsequently “lit,” answer separately for the fiber and the optronics utilized.) If the facility is not owned by you, identify the entity that owns the facility and (if different) the entity with which you entered into the lease or other arrangement, identify the nature of the arrangement, and state whether such entity or entities are affiliates of yours, in the sense defined in ¶ 408, footnote 1263 of the *Triennial Review Order*.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 6:

Identify and describe any arrangements into which you have entered with another entity for such other entity's use of transport facilities in Pennsylvania that you own or control, on a lease or other basis.

Response:

Not applicable.

**Investigation into the Obligations of Incumbent Local Exchange
Carriers to Unbundle Network Elements
Docket No. - I-00030099**

**Response of Sprint Communications Company, L.P. to the
Questions Propounded by the Pennsylvania Public Utility Commission**

Sponsoring Witness: Gerald Flurer

Transport – 7:

Provide a list of all recurring and non-recurring rate elements and rates when a CLEC purchases UNE-Loop and special access, EEL, DS1, or DS3 transport from the ILEC rate center to the CLEC rate center.

Response:

Not applicable.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Investigation into the Obligations of)
Incumbent Local Exchange Carriers to) Docket No. I-00030099
Unbundle Network Elements)

CERTIFICATE OF SERVICE

I hereby certify that I have this 14th day of November, 2003, served a true copy of the foregoing Responses upon the persons below via first-class and electronic mail, in accordance with the requirements of 52 Pa. Code §1.54:

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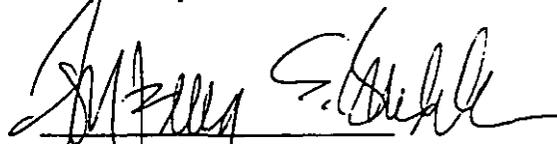
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DOCUMENT

Sprint Statement 1.0

1-00030099

Hlg JK 1/28/04

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Investigation into the :
Obligation of Incumbent : Docket No.
Local Exchange Carriers : I-00030099
to Unbundle Network Elements :

DOCKETED
FEB 12 2004

**DIRECT TESTIMONY OF
PETER N. SYWENKI**

**On Behalf Of Sprint Communications Company, L.P.
Concerning: Mass Market Switching**

PUBLIC VERSION

Date Served: January 9, 2004

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TABLE OF CONTENTS

I.	Introduction.....	1
II.	Mass Market Switching	7
	A. CLECs Meeting Competitive Triggers Must Not be Using Enterprise Switches.....	15
	B. CLECs Meeting Competitive Triggers Must be Serving A Meaningful Portion of the Mass Market.....	17
	C. CLECs Meeting Competitive Triggers Must Be Serving (or Capable Of Serving) Throughout the Market Rather Than Selectively Serving Portions of Geographic Market Area	19
	D. CLECs Meeting the Triggers Must be Actively Serving Mass Market Customers and Likely to Do So.....	23
	E. Summary/Conclusion.....	28
III.	Conclusion.....	31

1 **I. INTRODUCTION**

2 **Q. Please state your name and address.**

3 A. My name is Peter N. Sywenki. My business address is 6450 Sprint Parkway,
4 Overland Park, Kansas, 66251.

5
6 **Q. By whom are you employed and in what capacity?**

7 A. I am presently employed as Director - Regulatory Policy for Sprint Corporation. In this
8 position, I am responsible for coordinating, developing, and advocating regulatory policy
9 positions on behalf of Sprint Corporation's various business interests.

10
11 **Q. Please provide your educational and work experience.**

12 A. I graduated from Elizabethtown College in Elizabethtown, Pennsylvania, in 1987 with a
13 Bachelor of Science degree in Business Administration with majors in Finance and
14 Marketing. I have been employed by Sprint for 16 years in various capacities including
15 positions in Sprint's incumbent local exchange carrier ("ILEC") division, Corporate Access
16 Planning, Regulatory Policy Coordination in support of Sprint's competitive local exchange
17 carrier ("CLEC") endeavors, Federal Regulatory Advocacy in Sprint's Washington, D.C.
18 office, and now my current position as Director - Regulatory Policy. I have testified on
19 local competition, access, and Universal Service Fund ("USF") issues before several
20 regulatory bodies including the Maryland, Nebraska, New York, Pennsylvania, Virginia,
21 and Wyoming state commissions. In addition, I have made regulatory policy presentations
22 to the Federal Communications Commission ("FCC"), the Federal - State Joint Board on
23 Universal Service, and the National Association of Regulatory Utility Commissioners
24 ("NARUC") on various matters.

1 **Q. On whose behalf are you testifying?**

2 A. The testimony in this proceeding is submitted on behalf of Sprint Communications
3 Company, L.P. (hereinafter "Sprint") as a CLEC certificated by the Pennsylvania Public
4 Utility Commission ("Commission") to provide competitive local services in the service
5 territories of Verizon Pennsylvania Inc. and Verizon North Inc. (collectively, "Verizon").
6

7 **Q. What is the purpose of your testimony?**

8 A. The purpose of my testimony is to respond to the case submitted by Verizon with respect to
9 the issue of Mass Market Switching in light of the FCC Triennial Review Order (TRO) and
10 this Commission's Procedural Order in this case. Specifically, this testimony will highlight
11 flaws in Verizon's case and demonstrate that Verizon has fundamentally misinterpreted the
12 TRO and the Commission's Procedural Order. The Commission must conclude that
13 Verizon has failed to undertake and produce the granular analysis required by the FCC and
14 the Commission, and is necessary to overcome the FCC's finding of impairment.
15

16 **Q. What was the scope of review undertaken by you?**

17 A. The scope of review undertaken to prepare and present this testimony included the
18 following:
19

20 (1) Review the assertions made in Verizon filings, including testimonies and
21 responses to data requests, in order to determine if Verizon made a sufficient
22 showing given the requirements of the TRO;
23

24 (2) Review the responses to data requests (and possible testimony) submitted by
25 parties and entities and compare their claims to those of Verizon; and,
26
27
28

1 (3) Make final recommendations for consideration by this Commission regarding
2 whether Verizon's filing demonstrates that the CLEC switching candidates are
3 unimpaired in light of the requirements of the TRO and the information and record
4 adduced in this proceeding.¹
5

6 **Q. Does Sprint bring a unique perspective to this proceeding?**

7 A. Yes it does. The United Telephone Company of Pennsylvania d/b/a Sprint is an ILEC in
8 portions of Pennsylvania with approximately 400,000 access lines. In the country, Sprint's
9 other ILEC operating entities provide basic local telephone service to millions of customers
10 in eighteen states. Sprint's CLEC operating affiliates in many other states throughout the
11 country provide competitive local service to hundreds of thousands of residential and
12 business customers nationwide. In Pennsylvania, Sprint's CLEC operating entity has
13 approximately [BEGIN PROPRIETARY]
14

15 [END PROPRIETARY] all providing competitive local exchange service by
16 way of UNE-P leased from Verizon. Therefore, Sprint is uniquely situated to understand
17 the needs of both *providers* and *purchasers* of unbundled network elements, and to
18 understand the competitive impacts of the availability—or lack of availability—of
19 unbundled elements on both providers and purchasers. In the process of arriving at the
20 policy positions that form the basis of its testimony, Sprint is required to balance,
21 internally, the same competing interests that policymakers must balance in proceedings
22 such as this one.
23
24
25

26 _____
27 ¹ Responses to data requests have been incoming during the preparation of this testimony. Additional discovery
28 responses may be forthcoming following the submission of this testimony. This testimony attempted to include
data responses provided at or near January 9, 2004 to the extent feasible.

1 **Q. What is the impairment standard established by the FCC in the TRO and what did**
2 **the FCC conclude with respect to mass market switching?**

3 A. In the TRO, the FCC found “a requesting carrier to be impaired when lack of access to an
4 incumbent ILEC network element poses a barrier or barriers to entry, including operational
5 and economic barriers, that are likely to make entry into a market uneconomic.” TRO at
6 ¶85. Applying this definition of impairment to mass market switching, the FCC found on
7 a national basis that CLECs are impaired. The TRO directed state commissions to perform
8 a more granular analysis to determine whether impairment exists within particular markets
9 and established guidelines for the analyses. Specifically, states are directed to examine 1)
10 actual competition -- the extent to which competitors are competing using non-ILEC
11 facilities, and 2) potential deployment -- the extent to which competitors could
12 economically and operationally compete without unbundled access to ILEC network
13 elements. In its submission, Verizon has limited its case to a review of actual competition.
14

15 **Q. What is the purpose of the TRO process being implemented by the Pennsylvania**
16 **Commission in this proceeding?**

17 A. This proceeding is the vehicle by which “the Commission will gather the information
18 necessary to make its determination” as to whether CLECs are impaired without access to
19 unbundled elements provided by Verizon and thereby whether Verizon “must continue to
20 provide access to certain network elements.” (PA PUC, Procedural Order entered, October
21 3, 2003, pages 6 and 11.) Essentially, this proceeding sets the foundation for this
22 Commission’s determination of whether to rebut the FCC’s national impairment findings in
23 the markets served by Verizon, as requested by Verizon.
24
25
26
27
28

1 **Q. Did the Pennsylvania Commission make any preliminary conclusions concerning the**
2 **impairment standard it would apply in this proceeding?**

3 A. Yes. In its October 3, 2003 Procedural Order, the Pennsylvania Commission discussed the
4 FCC's impairment standard relative to this 9-month TRO proceeding and determined to
5 apply the following standards:

6
7 According to the FCC, a requesting carrier is impaired when lack of access
8 to an ILEC network element poses barriers to entry, including operation
9 and economic barriers that are likely to make entry into a market
10 uneconomic. Such barriers include scale economics, sunk costs, first-
11 mover advantages, and barriers within the control of an ILEC. The FCC
12 further notes that this unbundling analysis is to consider market-specific
13 variations, including customer class, geography, and service. As per the
14 directions of the FCC, these are the standards that the Commission will use
15 to make its determination. (See, PA PUC Order entered October 3, 2003 at
16 11-12 (emphasis added).)

17 **Q. Why are “market-specific variations, including customer class, geography, and**
18 **service” necessary and important factors that must be considered by the Pennsylvania**
19 **Commission in the required granular analysis?**

20 A. The FCC provided states with the role of conducting a granular analysis based on the
21 FCC's determination that states are better situated to determine the detailed circumstances
22 that exist in the markets in their states. The FCC could have conducted a rote CLEC switch
23 counting exercise and made final determinations based on broad assumptions of market
24 characteristics. Instead, the FCC gave states authority to make determinations based on the
25 extent of competition and as to the operational and economic entry barriers in specific
26 geographic areas, for serving specific customer-classes, and for the provision of specific
27 services in the states. (See, e.g., TRO at ¶495.) It would be inappropriate to conclude that
28 CLECs are not impaired throughout a geographic area for all customer segments in the
market based solely on the existence of some CLECs serving a select portion of the
geographic market or focusing on one customer segment. Such a conclusion would not

1 recognize the specific market variations specified in the Pennsylvania Commission
2 Procedural Order, and would not satisfy the granular analysis required by the TRO. For
3 example, as the TRO itself indicates, business customers “usually pay higher retail rates,
4 and may be more likely to purchase additional services such as multiple lines, vertical
5 features, data services and yellow page listing” than residential customers. (TRO at
6 footnote 432.) Therefore, a CLEC that subdivides the market – e.g., does not serve
7 residential customers, and only serves select business customers – should not be viewed by
8 this Commission as evidence that CLECs are not impaired without access to unbundled
9 switching to serve mass market customers. That is why a granular analysis must consider
10 specific market variations. More importantly, failure to consider market specific
11 variations – and therefore summarily removing unbundled switching – would harm
12 competition to the detriment of consumers.

13
14 **Q. Did the Pennsylvania Commission make a determination as to which party bears the**
15 **burden of proof in this proceeding?**

16 **A.** Yes. The Pennsylvania Commission tentatively concluded in concurrence with the FCC’s
17 national finding that impairment exists in Pennsylvania for mass market switching. The
18 Pennsylvania Commission then assigned the burden of proof to the petitioning ILEC, which
19 in this proceeding is Verizon, to demonstrate otherwise. Specifically, the Pennsylvania
20 Commission concluded as follows:

21
22 Given the national findings of impairment, we tentatively conclude there is
23 impairment in Pennsylvania. Therefore, any ILEC desiring to contest the
24 presumption of impairment must bear the burden of proving non-impairment.
25 (See, PA PUC Order entered October 3, 2003 at 12 (emphasis added).
26
27
28

1 **Q. Please summarize the role assigned to this Commission by the TRO and recognized in**
2 **the Pennsylvania Commission's Procedural Order.**

3 A. The granular analysis demanded by the FCC TRO and the Pennsylvania Commission
4 Procedural Order requires Verizon to prove impairment does not exist in the markets in
5 which Verizon contests the presumption of impairment:

- 6 1) throughout the geographic market area
- 7 2) for all relevant customer-classes in the market -- residential and business, and
- 8 3) for the provision of the relevant services -- local voice service.

9
10 **Q. Has Verizon satisfied these requirements in its case?**

11 A. No.

12 **II. MASS MARKET SWITCHING**

13
14 **Q. What was the basis for the FCC's finding of impairment for mass market switching?**

15 A. The FCC made a national determination in the TRO that CLECs are impaired without
16 unbundled access to local switching for mass market customers. Based on a voluminous
17 record, the FCC concluded that there has been "minimal deployment of competitive LEC-
18 owned switches to serve mass-market customers" and that "the characteristics of the mass
19 market give rise to significant barriers to competitive LECs' use of self-provisioned
20 switching to serve mass market customers." TRO at ¶422. The FCC found that on a
21 national basis, using data submitted that the Bell Operating Companies ("BOCs") that
22 many parties argued was inflated, the amount of residential lines being served via
23 competitive LEC switches "represents only a small percentage of the residential voice
24 market...less than three percent of the residential voice lines served by reporting incumbent
25 LECs." TRO at ¶438. The FCC correctly determined that impairment exists for mass
26 market switching based on the lack of significant actual competition from CLECs using
27 their own switches to serve mass market customers, small business and residential
28

1 customers in particular, as well as the significant barriers CLECs face in serving mass
2 market customers using self-provisioned switching. Despite this finding of impairment, the
3 FCC set up a process by which states can conduct a market-by-market, granular analysis to
4 determine whether evidence exists for particular markets that differs from the national
5 circumstances to justify a different conclusion. In conducting this granular analysis, the
6 state must define the relevant market using guidelines established by the TRO and then
7 apply specific criteria for those markets to examine the extent of actual competition or the
8 potential for competition by competitors serving the defined market using non-incumbent
9 switching.

10 **Q. What are the factors necessary in defining the market for mass market switching?**

11 A. There are basically two dimensions to defining the market for mass market switching,
12 geographic area and customer segment, i.e., residential and small-businesses.
13

14
15 **Q. What is the appropriate geographic market area in defining the market?**

16 A. With respect to geographic area, the TRO prohibits state commissions from defining the
17 market as the entire state and guides states not to define the area "so narrowly that a
18 competitor serving that market alone would not be able to take advantage of available
19 scope and scale economies from serving a wider market." TRO at ¶495. It is Sprint's
20 position that the Metropolitan Statistical Area ("MSA"), as defined by the U.S. Census
21 bureau, constitutes an appropriate geographic unit for examination of impairment.
22 Specifically, with respect to actual competition, the state should examine the extent to
23 which competitors are using non-ILEC wholesale switching to serve mass market
24 customers throughout the MSA.
25
26
27
28

1 **Q. Is defining the market geographic area as an MSA consistent with the requirements of**
2 **the TRO?**

3 A. The MSA is consistent with the TRO requirement that the geographic area not encompass
4 the entire state, since there are multiple MSAs in the state of Pennsylvania. Further, an
5 MSA is a broad enough area that it allows a competitor serving an MSA alone the ability to
6 take advantage of scale and scope economies available from serving a wider market and
7 closer to the scale and scope economies enjoyed by the incumbent.
8

9
10 **Q. What unit of geography does Verizon propose for analyzing impairment with regard**
11 **to mass market switching?**

12 A. On page 11 of Verizon Statement 1.0, Verizon proposes MSAs and Density Cells, but
13 ultimately seeks relief for entire MSAs.
14

15 **Q. Since both Sprint and Verizon indicate that MSA is an appropriate unit of geography**
16 **for analyzing impairment, does this mean Sprint agrees with Verizon's use of MSAs**
17 **as applied in its case?**

18
19 A. No. Sprint has a fundamental disagreement with Verizon's approach in its use of MSAs in
20 this case. Verizon argues that the existence of any CLEC switch serving only a segment of
21 the mass market in only a portion or portions of the MSA supports a Commission finding
22 of non-impairment throughout the MSA for all customer segments. As explained further
23 below, the granular analysis required by the TRO and set forth in the Pennsylvania
24 Commission's Procedural Order requires consideration of market specific variations in
25 geography – i.e., a granular analysis must examine impairment throughout the defined
26 market, not just a portion or some portions of the defined market. Verizon has failed to
27 include any consideration of market specific variations.
28

1 **Q. What is the appropriate cut-off for delineating which customer classes to include in**
2 **the mass market?**

3 A. In addition to defining the market in terms of geographic area, the state must define what
4 constitutes a mass market customer. The TRO requires states to “determine the appropriate
5 cut-off for multi-line DS0 customers” and states that the crossover point be “the point
6 where it makes economic sense for a multi-line customer to be served via a DS1 loop”.
7 TRO at ¶497. Sprint developed a methodology for determining this economic crossover
8 and used this methodology to calculate the crossover for Pennsylvania. The formulation of
9 this crossover is fully explained in the pre-filed testimony of James D. Dunbar, Jr., which
10 has been marked as Sprint Statement No. 2.0.

11
12
13 **Q. Does Verizon’s proposed “cut-off” comply with the TRO?**

14 A. No. On page 17 of Verizon Statement 1.0, Verizon suggests the “cut-off” should be
15 between customers actually being served with one or more voice grade DS0 circuits and
16 customers actually being served by DS1 loops. In essence, Verizon does not define a cut-
17 off point at all, since the phrase “one or more” has no upper limit. By taking the approach
18 of placing no upper limit on the number of DS0s a customer can have and still be
19 considered a mass market customer, Verizon may be systematically expanding the size of
20 what is considered “mass market” customers. Moreover, Verizon’s “no upper limit”
21 approach is at odds with federal rules and Pennsylvania requirements that explicitly limit
22 the availability of unbundled switching based on the size and characteristics of the
23 customer.

- 1 **Q. Once the markets are defined, what must be shown in order for Verizon to prove**
2 **impairment does not exist in these markets?**
- 3 **A.** Verizon must show that there is evidence of actual competition from CLECs serving the
4 mass market with their own switching or that the potential for competition exists from
5 CLECs using their own switching to serve the mass market. Specifically, with respect to
6 actual competition, the FCC established a “competitive trigger” analysis that looks at the
7 state of facilities-based competition in the market. In the TRO, the FCC stated its belief
8 that the competitive triggers are intended to provide evidence of “the technical and
9 economic feasibility of an entrant serving *the mass market* with its own switch.” TRO at
10 ¶501. And, the TRO states that an analysis of potential deployment is intended to provide
11 evidence of how an entrant could “economically serve *the market* without access to the
12 incumbent’s switch.” TRO at ¶517. It is important to note that both references refer to
13 evidence of serving “the market” (or “the mass market”) as a whole. As the Pennsylvania
14 Commission conducts its impairment analysis, it should not be looking for evidence of
15 serving *portions* or *segments* of the market. Rather, it should examine whether the
16 defined market area is being served by competitors such that mass market customers
17 *throughout* the market have real competitive choices to the ILEC. Therefore, the
18 market – each MSA in Pennsylvania in which Verizon is contesting impairment – should
19 be considered a whole unit for purposes of analyzing impairment.
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- 23 **Q. Can you please comment on the overall approach taken by Verizon allegedly to prove**
24 **that impairment does not exist?**
- 25 **A.** It is clear in reading Verizon’s case that Verizon’s primary goal in this proceeding is to
26 minimize the impairment analysis and to convince the Pennsylvania Commission that the
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1 impairment analysis for mass market switching can be reduced to a simple exercise of
2 counting deployed CLEC switches. First of all, Verizon avoids any analysis of economic
3 and operational barriers to entry. It has limited its case to “competitive triggers”.

4
5 Second, Verizon avoids analysis of the extent to which competing carriers are serving both
6 segments of the mass market, residential and small business, thereby ignores the TRO and
7 this Commission’s Procedural Order requiring consideration of customer class as a specific
8 market variation. The TRO is very clear in that the mass market, as to be determined by the
9 state commissions, is made up of both residential and small business customers. TRO at
10 ¶127. If the CLECs identified by Verizon subdivide the mass market and only offer service
11 to business customers, then this Commission should seriously question outright whether the
12 “evidence” presented by Verizon adequately demonstrates the technical and economic
13 feasibility of an entrant serving the mass market.
14

15
16 **Q. At page 19 of Verizon Statement 1.0, Verizon claims that 54 CLEC local circuit**
17 **switches deployed in Pennsylvania relative to the MSAs identified by Verizon. Have**
18 **you been able to verify whether those switches serve mass market customers, both**
19 **residential and small business?**

20 **A.** No, Sprint has not independently verified that these switches serve both customer classes.
21 However, neither has Verizon undertaken such an independent verification. Based upon a
22 review of discovery responses submitted in this proceeding by other parties and other
23 entities, it appears that a large number of the switches identified by Verizon may not serve
24 both residential and business customers. In fact, when comparing the chart presented by
25 Verizon at page 19 of Verizon Statement No. 1.0 to the discovery responses, it appears that
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1 Verizon includes a number of carriers that entirely or primarily serve business customers.
2 Specifically, many carriers, [BEGIN PROPRIETARY]

3 [END PROPRIETARY] state they serve no residential
4 customers with self-provisioned switches. Additionally, there are other switch owners
5 Verizon has identified where the overwhelming majority or the entirety of the customers
6 they serve are DS1 level customers, for example [BEGIN PROPRIETARY]

7 [END PROPRIETARY]. For other carriers listed by Verizon, there is simply no data
8 provided by Verizon or these carriers that indicate whether or to what extent they serve
9 residential customers using self-provisioned switching.
10

11
12 **Q. Based on the data submitted by Verizon is it possible to determine if the**
13 **circumstances in the markets that Verizon contests differ significantly from the**
14 **circumstances that led the FCC to conclude and the Pennsylvania Commission to**
15 **tentatively conclude that impairment exists for mass market switching?**

16 **A.** No. As mentioned earlier, the FCC based its finding of impairment, in part, on the small
17 percentage of residential lines being served by competitors using self-provisioned
18 switching. Verizon in this proceeding, however, has failed to demonstrate that the
19 percentage of residential customers served by CLEC self-deployed switches in the market
20 areas it contests differs from the national percentage (i.e., less than 3%) that the FCC
21 cited in the TRO. Because Verizon has not correctly identified the number or percentage
22 of residential customers served by CLECs using self-deployed switches, the Commission
23 is unable to conclude whether the circumstances in the contested markets vary from the
24 FCC's national finding.
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1 **Q. Has data been provided so as to compare the percentage of residential customers**
2 **served by CLECs using self-deployed switches in the markets Verizon contests to**
3 **the national percentage?**

4 **A.** Based upon a review of the data request responses, it appears that about 2.1% of all
5 residential customers situated in the Verizon-contested MSAs are served by CLECs using
6 self-deployed switches.² In summary, Verizon has not identified the number or
7 percentage of residential customers served by CLECs using self-deployed switches,
8 therefore it has not been able to demonstrate that the percentage of residential customers
9 served by CLEC switches is any higher than the percentage upon which the FCC relied,
10 in part, in its analysis that resulted in a finding of impairment at the national level. In
11 addition, based on data responses provided in this proceeding, it appears that the
12 percentage is no higher in the MSAs Verizon contests (2.1%) than the percentage cited by
13 the FCC in its impairment analysis (less than 3%).
14

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16
17 **Q. Verizon limits its case to “competitive triggers”. What are the criteria involved in**
18 **determining whether a competitive switch provider counts toward satisfying the self-**
19 **provisioning trigger?**

20 **A.** First, competitive switches used primarily to serve enterprise customers do not count
21 toward meeting the triggers. Second, CLEC switches must be serving a meaningful
22 number of mass market customers in the market. Third, CLEC switches must be serving,
23 or be capable of serving *throughout* the market, not just select portions of the market.
24

25
26 ² This percentage was calculated based upon Verizon’s Appendix A, Part B, as adjusted to eliminate CLEC line
27 counts attributable to enterprise switches. Also, cable line counts were eliminated for the reasons stated in this
28 testimony. These adjusted CLEC line counts were then compared to the residential counts provided by Verizon in
response to PA PUC Data Request (switching) numbers 5, 6, 7, and Verizon’s responses to Sprint Set I, numbers
1 and 2. See, Sprint Exhibit PNS-1, attached (Confidential).

1 Fourth, the CLEC must be actively serving the mass market and likely to continue to do
2 so. In addition to these requirements, Sprint maintains that cable providers should not be
3 counted in the trigger analysis. Each of these requirements is addressed in detail below.

4
5 **A. CLECS MEETING COMPETITIVE TRIGGERS MUST NOT BE USING**
6 **ENTERPRISE SWITCHES**
7

8
9 **Q. What does the TRO say about CLEC enterprise switches?**

10 **A.** For a CLEC switch to count toward meeting the competitive trigger it must be clear that
11 the switch being evaluated is not used primarily to serve enterprise customers. The TRO
12 makes a clear distinction between “deployment of switches by competitive providers to
13 serve the enterprise market” and “deployment of competitive LEC circuit switches to
14 serve the mass market.” TRO at ¶435 and footnote 1354. Switches that fall into the first
15 category—enterprise switches—do not count toward meeting the competitive triggers.
16 Specifically, the TRO states that “switches serving the enterprise market do not qualify
17 for the triggers...” TRO at ¶508. In its case, Verizon inappropriately includes enterprise
18 switches, i.e., switches that primarily serve enterprise customers and counts these
19 switches as serving mass market customers. For example, at Table 1 of Verizon’s Direct
20 Testimony, Verizon claims that XO has deployed three local circuit switches in
21 Pennsylvania and Focal has deployed two. However, in response to the Commission
22 standard data requests, XO’s response shows that **[BEGIN PROPRIETARY]**
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1 [END PROPRIETARY]. In addition, Focal has responded to
2 the PUC standard discovery that [BEGIN PROPRIETARY]
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5 [END PROPRIETARY] According to these data responses, it appears
6 that the three XO switches and two Focal switches identified by Verizon in their non-
7 impairment testimony are serving enterprise customers, not mass market customers and
8 therefore cannot be counted toward satisfying a mass market “competitive trigger
9
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12 **Q. If a CLEC switch was deployed primarily to serve enterprise customers, and is**
13 **currently used primarily to serve enterprise customers, but also manages to serve**
14 **some mass market customers, would such a switch count toward meeting the**
15 **competitive trigger?**

16 **A.** No. The FCC acknowledged in the TRO that mass market customers are in fact served
17 off of enterprise switches. TRO at ¶441. Yet, this fact by itself was not enough to negate
18 a national finding of impairment by the FCC.
19

20
21 **Q. Does the TRO provide some specific method for identifying whether a CLEC**
22 **switch is an enterprise switch—and therefore ineligible for meeting the**
23 **trigger criteria—or a mass market switch?**

24 **A.** No, it does not. It appears that the FCC left that task to the state commissions as part of
25 the states’ charge to “assess impairment in the mass market on a market-by-market basis.”
26 TRO at ¶493. However, it would clearly be reasonable to use some measurable
27 standard—such as the percent of voice grade equivalent lines serving DS1 and above
28

1 customers served by a switch. To the extent that it was shown that the vast majority of
2 the voice grade equivalent lines in the switch are being used to provide service to DS1
3 and higher service to enterprise customers, Verizon would be hard-pressed to prove that
4 the switches represented “deployment of competitive LEC circuit switches to serve the
5 mass market” (TRO at ¶435) as discussed in the TRO.
6

7
8 **B. CLECS MEETING COMPETITIVE TRIGGERS MUST BE SERVING A**
9 **MEANINGFUL PORTION OF THE MASS MARKET**
10

11 **Q. What does the TRO say about the share of the mass market served by CLECs using**
12 **self-provisioned switching?**

13 **A.** When evaluating evidence of impairment/non-impairment the FCC noted that the
14 *quantity* of CLEC mass market customers mattered. In paragraph 438 and in paragraph
15 441, the TRO discusses CLEC inroads into the mass market and makes reference to,
16 respectively, “only a small percentage of the residential voice market” and “extremely
17 few mass market customers.” In both cases, the finding of only a *de minimis* number of
18 CLEC mass market customers was associated with rejecting the notion of non-
19 impairment. Therefore, in order to demonstrate non-impairment, Verizon must
20 demonstrate that CLEC switches are serving a non- *de minimum* number of mass market
21 customers in any given market. Not only is this consistent with the FCC’s findings, but it
22 goes hand-in-hand with the first criterion discussed above. That is, a small amount of
23 mass market customers served off of an enterprise switch is not demonstrative of “the
24 technical and economic feasibility of an entrant serving the mass market with its own
25 switch.” TRO at ¶501.
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- 1 Q. What would be the alternative?
- 2 A. If the Commission ignores the number of mass market customers actually served by these
3 CLECs in this market, the result would allow the mere existence of some self-
4 provisioning CLECs, each serving and each *intending* to serve a small percentage of
5 residential and small business customers, to remove unbundled mass market local
6 switching from the entire MSA. This is exactly the type of situation that the FCC sought
7 to avoid when it made its finding of impairment nationally. More importantly, such an
8 outcome would leave mass market consumers without a competitive alternative.
9
10
- 11 Q. Is it reasonable that each trigger-meeting CLEC should be required to serve a non-
12 *de minimis* number of mass market customers, or that the trigger-meeting CLECs
13 combined must serve a non- *de minimum* number of mass market customers?
- 14 A. In the TRO it is clear that the FCC was addressing the combined CLEC market share. If
15 there was concern regarding individual CLEC market share it does not appear in the
16 discussions contained in the TRO. Therefore, it is reasonable that, when attempting to
17 demonstrate non-impairment based on actual deployment, the combined number of mass
18 market customers served by self-provisioning CLECs in a given market must be *non-de*
19 *minimis*.
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1 **C. CLECS MEETING THE TRIGGERS MUST BE SERVING (OR CAPABLE**
2 **OF SERVING) THROUGHOUT THE MARKET, RATHER THAN**
3 **SELECTIVELY SERVING PORTIONS OF THE GEOGRAPHIC MARKET**
4 **AREA**

5
6
7 **Q. What does the TRO say about the geographic scope of CLECs serving the mass**
8 **market?**

9 A. As mentioned above, the triggers are intended to provide evidence of the economic and
10 technical feasibility of an entrant serving “the mass market.” They are not intended to
11 provide evidence that an entrant could selectively serve portions of the mass market and
12 ignore other portions. Therefore, in order to demonstrate non-impairment based on actual
13 deployment it is not enough to show that CLECs are serving *select portions* of the mass
14 market. Rather, CLECs must be serving, or at a minimum be capable of serving mass
15 market customers *throughout* the market as it is defined.

16
17 **Q. But didn’t the FCC’s September 17th Errata remove the requirement that trigger-**
18 **meeting CLECs be capable of serving the entire market?**

19 A. Yes it did, and that reveals an important distinction. Prior to the issuance of the
20 September 17th Errata, the trigger criteria included the requirements of operational
21 readiness and willingness to provide service to *all* customers in the market, and the
22 economic capability of serving the *entire* market. To do that would require the CLEC
23 switches (either individually or in total) to be capable of serving *every* mass market
24 customer. From an economic point of view such a requirement does not make sense; it
25 would result in wasteful excess capacity.

1 But there is a significant difference between 1) being capable of serving *every* mass
2 market customer, and 2) being capable of offering service *throughout* the market. The
3 first—serving every customer—would require the CLEC to duplicate the ILEC’s
4 capacity, and is clearly undesirable and unnecessary. But the second—serving throughout
5 the market—allows the CLEC to limit itself to an efficient capacity (based on its overall
6 market share), but it prevents the CLEC from ignoring large portions of the market.
7 For example, assume a market is made up of twenty-four wire centers. Eight of
8 the wire centers are centrally situated with fairly dense populations (i.e.,
9 downtown) and the remaining sixteen are located on the perimeter and are less urban. If a
10 CLEC is collocated in the eight central wire centers and serving mass market customers
11 in the eight central wire centers—but not in the less urban sixteen—is the CLEC serving
12 the mass market? Or is the CLEC merely serving a select subset of the mass market?
13 Has the CLEC demonstrated, as described in TRO paragraph 501, the “technical and
14 economic feasibility of serving the mass market”? Or simply the technical and economic
15 feasibility of serving the high-density, low-cost portion of the mass market?
16

17
18 The TRO explicitly mentions situations where a CLEC is only serving, or only capable of
19 serving, a portion of the market. (TRO at footnotes 1537 and 1552.) In those cases it is
20 clear that the TRO does not conclude that serving a portion of the market constitutes
21 serving the market. On the contrary, the TRO states that in such cases the state
22 Commission is permitted to consider re-defining the market.
23

1 **Q. Are each of the CLECs listed by Verizon serving (or capable of serving) throughout**
2 **the market?**

3 A. No. Verizon's counting exercise simply fails to demonstrate that these CLECs are
4 actually serving or are capable of serving throughout the markets (i.e., MSAs) in which
5 Verizon is trying to foreclose access to unbundled switching. Based upon a review of
6 Verizon Statement 1.1 and Exhibits, it appears that CLECs are providing service to mass
7 market residential customers in under 40% of the wire centers in the MSAs Verizon is
8 contesting.³ Stated another way, using Verizon's own data, for mass market residential
9 customers that reside in over 60% of the wire centers in the MSAs in which Verizon is
10 trying to eliminate unbundled switching, and therefore UNE-P, there is not a single CLEC
11 providing service to residential customers using its own switch. This data shows that
12 Verizon has not demonstrated that CLECs are serving, or are capable of serving mass
13 market customers throughout the markets it is contesting.
14

15
16 From an economic and competitive standpoint, the importance of this criterion
17 cannot be overstated. If a CLEC is not serving or even *capable* of serving large portions
18 of a market, there is no way that the CLEC demonstrates "the technical and economic
19 feasibility of serving the mass market" as stated in the TRO. Allowing that CLEC to
20 "count" toward meeting the trigger would result in the removal of local switching (and
21 UNE-P) from areas in which a significant number of customers in the market truly may
22 have no other competitive alternative.
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25

26 _____
27 ³ See. Verizon Statement 1.1 at page 6. It appears that Verizon has identified CLEC switches serving mass market
28 residential customers in 111 Verizon wire centers out of a total of 279 wire centers in the eight MSAs Verizon is
contesting.

1 **Q. Does the TRO make a specific reference to how much of a market a CLEC**
2 **must serve, or be capable of serving, if it is to be considered doing more than**
3 **“cherry-picking”?**

4 **A.** In discussing the wholesale triggers, the TRO states that a carrier acquiring the use of
5 non-ILEC switching actually counts as a separate, unaffiliated, self-provisioning
6 provider - that is, counts toward meeting the self-provisioning triggers - only if it has the
7 ability “to serve a substantial portion of the market.” (TRO at footnote 1551.) This
8 suggests that self-provisioning carriers must be capable of serving “a substantial portion”
9 of the market. Obviously, the term “substantial portion” is open to interpretation, but the
10 intent is plain: serving a “substantial portion” of a market is clearly the opposite of
11 “cherry-picking”.
12

13
14 **Q. How can this Commission determine the portion of a market that a CLEC is**
15 **capable of serving?**

16 **A.** If a CLEC is currently collocated in a wire center, this may indicate that the CLEC is
17 capable of serving the customers in that wire center. And if a CLEC is currently using
18 EELs to actively serve customers in another wire center, the CLEC may be capable of
19 serving customers in the other wire center.⁴ Beyond those specific wire centers, there
20 would be no clear evidence that the CLEC is currently capable of serving other portions
21 of the market. An argument might be made that a CLEC is *potentially* capable of serving
22 more of the market, but that moves the discussion into the area of economic analysis of
23 potential deployment, rather than competitive triggers measuring actual deployment.
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27 ⁴ Of course, if Verizon is successful in shutting down transport routes is attempted in this proceeding, then this will
28 further restrict the area that competitors are capable of serving.

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D. CLECS MEETING THE TRIGGERS MUST BE ACTIVELY SERVING MASS MARKET CUSTOMERS AND LIKELY TO CONTINUE TO DO SO

Q. What does the TRO say about the extent to which CLECs must be actually serving the market?

A. Paragraphs 499 and 500, respectively, of the TRO require that CLECs allegedly meeting the triggers must be “actively” serving mass market customers, and should be “likely to continue to do so.” As stated in my discussion of market definition above, in many cases the mass market customers that a CLEC might currently serve are essentially by-products or residuals of serving the enterprise market. In other cases, it is possible that they are by-products or residuals of now-discarded business plans: the CLEC entered the market at one point in time, encountered difficulty of some kind and then stopped actively pursuing mass market customers but has simply chosen not to cut off service to these customers. In either case, such customers are not evidence that the CLEC is actively serving the mass market and likely to continue to do so. In fact, such residual customers actually demonstrate the antithesis of what the triggers are intended to show. Returning to TRO paragraph 501, the triggers are intended to provide evidence of “the technical and economic feasibility of an entrant serving the mass market with its own switch...” Residual customers such as these are much more clearly evidence of the *infeasibility of serving the mass market.*

1 **Q. How can the Commission determine whether CLECs are actively serving the mass**
2 **market and are likely to continue to do so?**

3 A. The Commission must look for evidence of *current* activities regarding the mass market:
4 current marketing efforts, current advertising campaigns, current (or recent) additions of
5 new customers, and/or recent conversion of UNE-P customers to UNE-L. Verizon
6 describes on page 21 of Statement 1.0 testimony that it considered all CLECs that lease
7 stand-alone UNE loops in the “Line Count Study” to identify where CLECs are providing
8 their own mass market switching. However, that “Study” is incomplete in that it fails to
9 provide the timing, trend, or duration of such activity to identify which, if any, of these
10 CLECs are actively acquiring mass market customers.
11

12
13 **Q. What does the TRO say about whether the Pennsylvania Commission must**
14 **consider cable companies in this proceeding?**

15 A. Verizon relies heavily in its case on the existence of cable companies that are providing
16 or planning to provide telephony services. For example, [BEGIN PROPRIETARY]
17

18
19 [END PROPRIETARY] While the
20 TRO discusses intermodal carriers, it is clear that the Pennsylvania Commission is not
21 required to count cable companies in the impairment analysis. The TRO clearly leaves
22 this decision to the Commission when they state “In deciding *whether to include*
23 intermodal alternatives for purposes of these triggers, states should consider to what
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1 extent services provided over these intermodal alternatives are comparable in cost,
2 quality, and maturity to incumbent LEC services.”⁵
3

4 **Q. Should the Pennsylvania Commission include cable companies in its impairment**
5 **analysis?**

6 **A.** No. First of all, the impairment standard in the TRO explicitly requires examination of
7 the circumstances of “requesting carriers”, that is carriers that request unbundled network
8 elements. Unlike CLECs, cable companies are not “requesting carriers” in that they do
9 not request nor rely on network elements provided by ILECs. The FCC discussed CMRS
10 and cable technology, and explicitly stated “We are unaware of any evidence that either
11 technology can be used as a means of accessing the incumbents’ wireline voice grade
12 loops. [Footnote omitted.] Accordingly, neither technology provides probative evidence
13 of an entrant’s ability to access the incumbent LEC’s wireline voice grade local loop and
14 thereby self-deploy local circuit switches.” (TRO at ¶ 446.) Clearly, the FCC found here
15 that the presence of a company using cable technology does not indicate in any way
16 whether an entrant that is not using cable technology is impaired. Second, cable
17 companies, such as Comcast operate under very unique circumstances which cannot be
18 replicated by CLEC entrants. Unlike CLECs, cable companies can leverage significant
19 existing assets and can take advantage of scope and scale derived from their traditional
20 cable business. For cable companies, voice service is primarily an add-on to a bundle that
21 includes traditional cable television service. In stark contrast, CLECs do not have the
22 benefit of an established cable television business to bolster their voice service offerings.
23 Cable companies also tend to primarily limit their voice service offerings to the confines
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27 ⁵ TRO at fn 1549.
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1 of their cable franchise territory and to their significant, established customer base.
2 Again, in stark contrast, CLEC are truly new entrants without a traditional franchise
3 presence or established base of customers to which they can “upsell” service. Quite
4 simply, a logical impairment analysis could not conclude that CLECs in general are
5 somehow not impaired just because a cable company, an entity with which CLECs bear
6 no resemblance, is beginning to enter the mass market for voice services. If this
7 Commission made a non-impairment determination based on the entry of cable
8 companies into the voice market, in a sense, that finding would direct new entrants to
9 adopt the cable television business model for entry – an unlikely feat for CLECs – and
10 would signal that only cable companies be given the opportunity to compete with ILECs.
11 In either case, the result creates a policy that unfortunately favors duopoly over more
12 widespread competition. For these reasons, the Pennsylvania Commission should
13 discount cable companies in conducting an impairment analysis.
14

15
16 **Q. In pages 30 to 33 of its direct testimony, Verizon portrays that its analysis**
17 **understates mass market customers served by competitive switches. Do you agree**
18 **with this portrayal?**

19
20 **A.** No. Verizon makes three references in this regard: (1) Vonage; (2) small business
21 customers served by cable companies; and (3) customers served by DS1s in apartments
22 and office buildings. Although Verizon has properly excluded these instances in its mass
23 market switching case, it implies that the Pennsylvania Commission should, in some way,
24 consider them in this proceeding. However, this Commission can not for the following
25 reasons.
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1 First, Verizon portrays "Vonage" as relevant. Yet, Verizon has not provided data
2 regarding the specific number of customers or customer-classes served by Vonage.
3 Further, it is generally understood that Vonage requires a broadband connection, yet
4 Verizon has not shown the extent to which broadband connections are either available or
5 subscribed to in the markets Verizon contests. Furthermore, although Verizon refers to a
6 Vonage announcement of a partnership with Intrado to address its inability to provide 911
7 to its customers, Verizon provides no indication that Vonage customers indeed have 911
8 capability, an important public safety component of local voice service. In addition,
9 Verizon's references to Vonage's expectations for national subscribers and its advertising
10 slogans also do not satisfy the required granular analysis.
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14 Second, with respect to cable companies serving small business customers, the
15 Commission is not required to include cable telephony and should not, for the reasons
16 discussed previously. Also, as with Verizon's reference to Vonage, Verizon has
17 supported its point by referencing national estimates and projections – not Pennsylvania
18 or market specific facts necessary for a granular analysis.
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22 Third, with respect to residential and business customers served by DS1s, it appears
23 Verizon is trying to have it both ways. For a market definition Verizon states that the
24 mass market should be defined as those customers served by one or more DS0s, but here
25 Verizon implies inclusion of customers served by DS1s. And, as with its references to
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1 Vonage and cable company provided small business service, Verizon is unable to identify
2 the specific number of customers served this way as is required in a granular analysis.
3

4 **E. SUMMARY / CONCLUSION**
5

6 **Q. Could you please summarize the criteria contained in the TRO that CLECs must**
7 **meet before competitive triggers are satisfied and whether or not Verizon has**
8 **considered all of the criteria in its submission?**

9 **A.** First, there is a difference between enterprise switches and mass market switches, and
10 enterprise switches do not count toward meeting the triggers. Any CLEC switch in which
11 the vast majority of the utilized capacity is dedicated to serving enterprise customers is an
12 enterprise switch and cannot be included in a trigger analysis. It is clear from Verizon's
13 data that it has counted enterprise switches.
14

15
16 Second, the CLEC switches must be serving a non- *de minimis* number of mass
17 market customers in the market. This goes hand in hand with the criterion above.
18 According to data, provided on this proceeding, the CLECs identified in the self-
19 provisioning trigger analysis (excluding the access lines served by a cable provider)
20 currently serve less than 2.1% of the access lines in Pennsylvania. This small percentage
21 clearly does not pass the non- *de minimis* requirement.
22

23 Third, the CLEC must be serving, or capable of serving *throughout* the market, not just in
24 highly-select portions of the market. If a CLEC is not serving a "substantial portion" of
25 the market, then it is simply "cherry-picking". And cherry-picking is not evidence of "the
26 technical and economic feasibility of an entrant serving the mass market with its own
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1 switch” as stated in the TRO. Data provided in this proceeding shows that about 2.1% of
2 mass market residential customers thinly scattered across less than 40% of the wire
3 centers in the MSAs Verizon is contesting are served by CLECs with self-provisioned
4 switching. This is not persuasive evidence upon which the Pennsylvania Commission
5 could feel confident in making a finding that CLECs are not impaired without access to
6 unbundled switching.
7

8
9 Fourth, the CLEC must be actively serving the mass market customers and likely
10 to continue to do so. The CLEC cannot simply be serving the residuals of failed
11 business plans or by-products of serving the enterprise market. The Commission must
12 find evidence of current activity – marketing efforts, customer additions – to
13 determine that the CLEC is *actively* serving and likely to continue. Verizon has not
14 provided the granular analysis necessary to determine the extent to which CLECs using
15 self-provisioned switches are actively serving the mass market. Nor did Verizon
16 demonstrate whether such CLECs are likely to continue to do so.
17

18 **Q. Even if triggers were satisfied, must the commission make a finding of “no**
19 **impairment”?**
20

21 **A.** No. The FCC recognized that even where a trigger appears to be satisfied, states may
22 identify circumstances that create a significant barrier to entry such that “service to mass
23 market customers is foreclosed even to carriers that self-provision switches”⁶. For instance,
24 the absence of available collocation space for CLEC equipment is an example.
25
26

27 _____
28 ⁶ TRO at ¶503.

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Q. Did Verizon address this issue?

A. On page 9 of the testimony, Verizon makes a solitary statement, without any substantiation that such circumstances “do not exist in Pennsylvania.” This is interesting since, based on reports available from Verizon’s Physical Collocation Space Exhaust List website (http://www22.verizon.com/wholesale/local/collocation/detail/1,20616,info_space,00.html) there are a number of wire centers in which Verizon claims a lack of available collocation space. Specifically, the website states that 12 Verizon central offices in Pennsylvania “have no more space available for physical collocation”. Eleven of the twelve offices are in the challenged MSAs. In addition, the Pennsylvania-specific report (last updated 12/24/03) identifies 12 more offices that will exhaust collocation space within the next 12 months. Further, two offices are identified as having “constrained” space -- one of which is within one of the challenged MSAs. Verizon’s treatment of this issue is indicative of its overall short-cut approach taken in this proceeding, instead of an approach designed to satisfy the required granular impairment analysis.

Q. Has Verizon attempted to make a showing of no impairment for mass market switching using the competitive wholesale trigger?

A. No. Because Verizon has not attempted to complete a trigger analysis under the competitive wholesale facilities trigger for mass market switching, Sprint will not submit testimony on this issue at this time. Sprint reserves the right to put forth a position regarding the appropriate methodology for conducting a wholesale mass market trigger

1 analysis until Verizon attempts to remove its mass market switching unbundling obligations
2 using this competitive wholesale trigger.
3

4 **Q. Is discovery outstanding in this proceeding?**

5 A. Yes. Sprint reserves the right to amend or supplement the positions set forth in its
6 testimony to address and/or include these issues.
7

8
9 **III. CONCLUSION**

10 **Q. What do you recommend that this Commission do concerning Verizon's case**
11 **allegedly demonstrating non-impairment for local circuit switching for the mass**
12 **market?**

13 A. I recommend that the Commission find and conclude that Verizon has failed to
14 demonstrate non-impairment in any of the MSAs identified by Verizon. The flaws in
15 Verizon's analysis and misapplication of the requirements of the TRO dictate this result.
16 Additionally, the negative impact on local competition caused by the unwarranted
17 elimination of UNE-P competition – a clear detriment to Pennsylvania consumers –
18 dictates this result.
19

20
21 **Q. Does this conclude your testimony?**

22 A. Yes.
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DOCUMENT

Sprint Statement 1.1

*1-00030099 Hwy dx
1/28/04*

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Investigation into the :
Obligation of Incumbent : Docket No.
Local Exchange Carriers : I-00030099
to Unbundle Network Elements :

DOCKETED
FEB 12 2004

**REBUTTAL TESTIMONY
OF
PETER N. SYWENKI**

On Behalf Of Sprint Communications Company, L.P.

PUBLIC VERSION

RECEIVED
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SECRETARY'S BUREAU

Date Served: January 20, 2004

TABLE OF CONTENTS

I. INTRODUCTION	1
II. GEOGRAPHIC MARKET DEFINITION	2
III. CONCLUSION	4

1 **I. INTRODUCTION**

2 **Q. Please state your name, place of employment, and business address.**

3 A. My name is Peter N. Sywenki. I am presently employed as Director - Regulatory
4 Policy for Sprint Corporation. My business address is 6450 Sprint Parkway,
5 Overland Park, Kansas, 66251.

6

7 **Q. Are you the same Peter N. Sywenki that submitted prefiled Direct Testimony**
8 **in this proceeding?**

9 A. Yes, I am.

10

11 **Q. What is the purpose of your Rebuttal Testimony?**

12 A. In Direct Testimony submitted on behalf of Sprint Communications Company, L.P.
13 (hereinafter "Sprint"), I recommended using MSAs for defining the geographic
14 market area for mass market local switching. Various other parties submitting
15 prefiled Direct Testimony recommended that the Pennsylvania Public Utility
16 Commission (hereinafter "Commission") define markets based upon wire centers or
17 density cells or some combination of MSAs and wire centers. The purpose of this
18 Rebuttal Testimony is to respond to the testimony submitted by other parties. I
19 continue to maintain that a market definition based upon MSAs is most appropriate.

20

21

22

23

1 **II. GEOGRAPHIC MARKET DEFINITION**

2 **Q. Have you read the recommendations of other witnesses who seek market**
3 **definitions for mass market switching other than MSAs?**

4 A. Yes.

5

6 **Q. Having read the other parties' testimonies, would you change your testimony?**

7 A. No.

8

9 **Q. Why wouldn't a smaller area, like wire center or density cell, be appropriate?**

10 A. Wire centers and density cells are "ILEC-centric" area distinctions which may not
11 reflect the scope of a geographic area of interest to competitive entrants. New
12 entrants typically seek to approach the market on a broader scale, not tied to
13 traditional ILEC service boundaries.¹ The FCC provided guidance to state
14 commissions to avoid using "narrow" market definitions. Serving an individual
15 wire center or density cell does not provide the scale and scope economies of
16 serving a wider area. Like ILECs, new entrants incur significant administrative and
17 operational costs for back-office functions (e.g., ordering, billing). However, unlike
18 the ILEC, new entrants do not have a large, established base of customers over
19 which to spread these "common costs". If the market is defined too narrowly, (e.g.

¹ See, Verizon Exhibit 1 Part B of Statement No. 1.1 which depicts a number of CLECs which each are listed in multiple wire centers and multiple density cells. For example, in the Philadelphia-Camden-Wilmington MSA, Verizon lists [BEGIN PROPRIETARY] [END PROPRIETARY]. In addition, Sprint serves mass market customers using UNE-P in [BEGIN PROPRIETARY] [END PROPRIETARY] wire centers spread throughout the state of Pennsylvania.

1 wire center), the new entrant cannot take advantage of the scale and scope
2 economies that are enjoyed by the ILEC which serves a broader market area.

3

4 **Q. Are there other reasons why defining the market area as wire center or density**
5 **cell may be too narrow?**

6 **A.** Yes. There are additional issues which make smaller designations problematic.
7 There are operational complexities for both the ILEC and the CLEC in
8 administering UNE switching availability on a wire-center-by-wire-center or
9 density-cell-by-density-cell basis, rather than on an MSA-wide basis. In the event a
10 particular wire center or density cell are found to be “not impaired”, ILECs and
11 CLECs will need to adjust systems and practices to account for the unavailability of
12 UNE switching in the particular wire center or density cell. CLECs will need to
13 adjust marketing efforts and adopt differential entry strategies for serving different
14 wire centers or density cells using disparate entry modes. Or, CLECs may decide to
15 exit the broader market altogether. The absence of UNE switching in certain
16 specific wire centers or density cells requiring the CLEC to adopt disparate
17 competitive entry modes for each smaller area may well make serving the broader
18 market uneconomic. In addition, local number portability (LNP) introduces more
19 difficulty, particularly in a wire-center-by-wire-center mode. With the advent of
20 LNP, customers can move between wire centers within a rate center. If UNE local
21 switching availability differs between wire centers, this makes it difficult for parties
22 to distinguish the customers who can be served with UNE-P from those customers
23 who cannot be served with UNE-P. For the foregoing reasons, implementation of

1 wire-center-by-wire-center or density-cell-by-density-cell impairment findings
2 presents difficulties that are not inherent with the adoption of the broader MSA
3 market definition. Sprint urges the Commission to focus its impairment evaluation
4 on the extent to which CLECs are impaired without unbundled access to Verizon
5 local switching throughout the MSA.

6
7 **Q. Please summarize your Rebuttal Testimony with regard to defining the**
8 **geographic market area for mass market local switching.**

9 A. Although different geographic areas have been proposed by different parties, MSA
10 is the most appropriate definition. Specifically, in this proceeding, the Commission
11 should examine impairment of CLECs without access to Verizon's unbundled
12 switching throughout each MSA that Verizon is challenging. Defining the market
13 area as MSA is consistent with the TRO requirement that states "shall not define the
14 relevant geographic market as the entire state" (47 CFR 51.319.(d)(2)(i)) and that
15 "states shall not define the market so narrowly that a competitor serving that market
16 alone would not be able to take advantage of available scale and scope economies
17 from serving a wider market." (TRO at ¶495.) Use of MSAs for the definition of
18 the geographic market area strikes a balance between "entire state" and "too
19 narrow".

20
21 **III. CONCLUSION**

22 **Q. Does this conclude your testimony?**

23 A. Yes, it does.

Sprint Statement 2.0

*1-0003099
1/28/04 Hbg JK*

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Investigation into the :
Obligation of Incumbent : Docket No.
Local Exchange Carriers : I-00030099
to Unbundle Network Elements :

DOCUMENT

**DIRECT TESTIMONY
OF**

~~**JAMES D. DUNBAR, JR.**~~

JAMES A. APPLERY

On Behalf Of Sprint Communications Company, L.P.

Concerning: Loops, Transport & DS-0 to DS-1 Cut-Off

**DOCKETED
FEB 12 2004**

PUBLIC VERSION

Date Served: January 9, 2004

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TABLE OF CONTENTS

I. BACKGROUND AND QUALIFICATIONS	1
II. PURPOSE OF TESTIMONY.....	5
III. DEDICATED TRANSPORT.....	6
IV. LOOPS.....	17
V. DS-0/DS-1 ECONOMIC CROSSOVER.....	20
VI. SUMMARY OF TESTIMONY.....	24

1

2 **I. BACKGROUND AND QUALIFICATIONS**

3 **Q. Please state your name, place of employment, and business address.**

4 A. My name is James D. Dunbar, Jr. I am employed by Sprint/United Management
5 Company, an affiliate of Sprint Communications Company L.P. (“Sprint”), as a
6 Senior Manager – Network Costing. My business address is 6450 Sprint Parkway,
7 Overland Park, Kansas, 66251.

8

9 **Q. What is your educational background?**

10 A. I received a Bachelor of Science in Engineering degree from Pennsylvania Military
11 College (now Widener University), Chester, Pennsylvania with a split emphasis in
12 Computer Design Engineering and Nuclear Reactor Engineering. In 1983, I
13 received a Master of Business Administration degree from James Madison
14 University, Harrisonburg, Virginia, with an emphasis in Business. I have also
15 completed numerous industry engineering, planning, and costing related courses
16 covering general, outside plant, traffic, and transmission engineering, transmission
17 noise mitigation, technical planning, equipment deployment, and costing. I have
18 attended numerous manufacturer seminars on the latest DLC-RT (“Digital Loop
19 Carrier – Remote Terminal”) equipment and its deployment.

20

21 **Q. What is your work experience?**

22 A. From 1966 to 1970, I served as an Officer in the U.S. Army Signal Corps leading or
23 commanding signal units on various communications assignments including

1 command of a U.S. Strike Force International Communications Team.

2 Responsibilities included the provision of FM, UHF, microwave radio, radio/wire
3 integrated links, landline, switching, operator services, network control, and secure
4 communications. Following active duty, I continued in a reserve status assigned
5 primarily to the U.S. Army Air Defense School at Ft. Bliss, Texas as a senior
6 communications instructor and course analyst.

7
8 From 1970 to 1973, I was employed by the Denver & Ephrata Telephone &
9 Telegraph Company in Ephrata, Pennsylvania. My duties included outside plant
10 engineering, traffic engineering, COE engineering, PBX engineering, development
11 of certain cost studies, and some Circuit Equipment maintenance.

12
13 I have been employed by Sprint Corporation or one of its predecessor companies
14 since 1973. From 1973 to 1985, I was located in Virginia. From 1973 to 1974, I
15 was an Outside Plant Engineer with responsibility for many projects including a
16 complete rework of the University of Virginia loop plant. I worked as a
17 Transmission Engineer during 1974 and then was assigned to manage the state
18 capital budget and outside plant planning group for the 1974 to 1976 period. This
19 group was assigned responsibility for engineering all outside plant capital projects
20 in excess of \$25,000 and budgeting for all classes of plant. From 1976 to 1978, I
21 was District Plant Manager for the 1800 square mile Southern Virginia District
22 where I managed the construction, maintenance, and installation forces.

23

1 From 1978 to 1984, I managed various regulatory costing functions, including the
2 state depreciation and cost separations group. From 1984 to 1985, I was General
3 Manager - Interexchange Services where I managed the cost separations, rates and
4 tariffs, depreciation, and the interexchange carrier billing/contract and interface
5 functions. I was a member of the Virginia Telephone Association Separations
6 Committee.

7
8 From 1985 to 1993, I was General Staff Manager - Separations for the predecessor
9 Centel Corporation staff in Chicago, Illinois. My job functions included managing
10 the cost separations staff, the revenues and earnings monitoring function, the
11 programming and modeling support for those functions, and cost issue analysis
12 activities such as rate of return versus price caps and FCC/NARUC rule changes. I
13 was the primary corporate interface with USTA and NARUC for technical issues. I
14 served on the USTA Technical Operations Committee, the Price Caps Team (from
15 1987 to 1991), and the Policy Analysis Committee. I also taught a portion of the
16 USTA Separations Classes.

17
18 From 1993 to the present, I have been employed by Sprint United Management
19 Company. From 1993 to 1994, I was Manager - Separations with responsibility for
20 the merger of the Centel and Sprint separations functions and various other costing
21 and monitoring activities. Since 1994, I have been in my current position with
22 responsibility for analysis and modeling of costing issues, such as LIDB and 800,
23 broadband implementation, local loop, and the development of costing models

1 sponsored by Sprint Corporation and others. I have co-authored each of the
2 Benchmark Cost Models including Benchmark Cost Model (“BCM”) versions 1
3 and 2, and Benchmark Cost Proxy Model (“BCPM”) versions 1, 2, 2.5, 3.0 and 3.1.
4 I have authored loop plant investment modules used by Sprint in state UNE
5 TELRIC proceedings which include both geographical plant design and plant cost
6 calculations for a forward looking network.
7

8 In addition to the various loop cost module development activities, I was a member,
9 from its inception until two years ago, of the Telecommunications Industries
10 Analysis Project (“TIAP”) (currently sponsored by the University of Florida)
11 industry team. As a member of that team, I helped develop the TIAP Broadband
12 Model and participated in the writing of numerous TIAP papers on current
13 telecommunications issues. I have conducted cost modeling workshops throughout
14 the United States.
15

16 **Q. Have you testified previously before state regulatory commissions?**

17 A. Yes, I have previously testified before this Commission on USF issues. I have also
18 testified before the state regulatory commissions in California, Florida, Illinois,
19 Kansas, Missouri, New Jersey, North Carolina, Nevada, Oregon, Texas, Virginia,
20 and Washington.
21

22 **Q. On whose behalf are you testifying in this proceeding?**

1 A. The testimony in this proceeding is submitted on behalf of Sprint Communications
2 Company, L.P. (hereinafter “Sprint”) as a Competitive Local Exchange Carrier
3 (“CLEC”) certificated by the Pennsylvania Public Utility Commission
4 (“Commission”) to provide competitive local services in the service territories of
5 Verizon Pennsylvania Inc. and Verizon North Inc. (collectively, “Verizon”).
6

7 **II. PURPOSE OF TESTIMONY**

8 **Q. What is the purpose of your testimony?**

9 A. The purpose of my testimony is to respond to the case submitted by Verizon
10 concerning the FCC’s Triennial Review Order (“TRO”).¹ I will provide
11 recommendations related to impairment triggers for dedicated transport routes and
12 building locations. I will also support the calculation of a DS-0 to DS-1 economic
13 crossover value that Sprint witness Peter Sywenki addressed in his testimony.
14
15 Verizon’s submission in this proceeding has failed to overcome the national finding
16 that “CLECs” are impaired without unbundled access to dedicated transport.
17 Verizon also incorrectly identifies a large number of customer locations where it
18 claims CLECs are not impaired without access to unbundled loops because of
19 incorrect assumptions and the misapplication of FCC criteria.
20

¹*Review of 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; *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, FCC 03-36 (rel. August 21, 2003) (hereinafter “TRO”).

1 **III. DEDICATED TRANSPORT**

2 **Q. Please address the criteria and guidelines provided by the FCC to determine**
3 **non-impairment for dedicated transport.**

4 A. In the TRO, the FCC found “a requesting carrier to be impaired when lack of access
5 to an incumbent local exchange carrier’s (ILEC’s) network element poses a barrier
6 or barriers to entry, including operational and economic barriers, that are likely to
7 make entry into a market uneconomic.” TRO at ¶85. Applying this standard to
8 dedicated transport, the FCC found on a national basis that CLECs are impaired.
9 The TRO directs state commissions to perform a detailed route-by-route and
10 location-by-location specific analysis to determine whether impairment exists
11 within each route and each building and established guidelines for these analyses.

12
13 The FCC’s TRO establishes “competitive trigger” criteria to determine whether
14 carriers are impaired without access to unbundled network elements. Separate
15 competitive triggers have been established for self-provisioned providers and for
16 wholesale providers.

17
18 For dedicated transport, the self provisioning trigger applies to dark fiber and DS-3
19 services and is satisfied if the Commission finds that three or more competing
20 providers not affiliated with each other or the incumbent LEC, *including intermodal*
21 *providers of service comparable in quality to that of the incumbent LEC²* have

²Text in italics does not apply to dark fiber triggers.

1 deployed their own transport facilities, are operationally ready to use those facilities
2 to provide dedicated transport along that route, and have terminated their facilities
3 either at a collocation arrangement or at a similar arrangement. The wholesale
4 trigger, which applies to dark fiber, DS-1 and DS-3 services, is satisfied if the state
5 commission finds that two or more competing providers not affiliated with each
6 other or the incumbent LEC, *including intermodal providers of service comparable*
7 *in quality to that of the incumbent LEC*³ each satisfy four conditions:

- 8 1) they have deployed their own transport facilities, including “dark fiber”
9 facilities obtained through an indefeasible right to use arrangement;
- 10 2) they are willing to immediately provide, on a widely available basis, dedicated
11 transport along the route;
- 12 3) their facilities terminate in a collocation or similar arrangement, as
13 appropriate, and
- 14 4) requesting carriers may obtain reasonable and nondiscriminatory access to the
15 provider’s facilities through a cross-connect.⁴

16
17 **Q. Has Verizon provided a list of transport routes that it claims meet either the**
18 **self-provisioning or wholesale criteria?**

19 A. Yes. Verizon, in supplemental testimony served on December 19, 2003, has
20 claimed and identified: “1) 245 direct routes meeting the FCC’s self-provisioning

³ Text in italics does not apply to dark fiber triggers.

⁴ See, TRO at Appendix B, §51.319(e)(1)(ii).

1 trigger for dark fiber, 2) 498 direct routes meeting the FCC's self-provisioning
2 trigger for DS3-level capacity, 3) 899 direct routes meeting the FCC's wholesale
3 trigger for DS1 and DS3 capacities, and 4) 719 direct routes meeting the FCC's
4 wholesale trigger for dark fiber." Verizon Statement 1.1 at 3.

5

6 **Q. What support has Verizon provided to substantiate the routes it has identified**
7 **as meeting the FCC's dedicated transport triggers?**

8 A. Verizon assumes that the CLEC has an actual route in existence when the CLEC
9 has an active fiber collocation presence in any two or more Verizon central offices.
10 In Verizon's view, a "route" exists between Verizon wirecenters "A" and "B" if the
11 same CLEC has active collocations with lit fiber that exits the "A" and "B" central
12 offices. Verizon Statement 1.0 at 36.

13

14 **Q. Do the routes Verizon has listed meet the self-provisioning or wholesale**
15 **triggers?**

16 A. No, for the reasons provided below.

17

18 **Q. Please describe Verizon's methodology for identifying transport routes that**
19 **satisfy either the self-provisioning or wholesale competitive triggers.**

20 A. Verizon's methodology is completely inadequate and falls far short of the required
21 granular analysis for trigger determination. Specifically, Verizon included the
22 transport route in the self-provisioning trigger analysis as long as both ends of the
23 route were located in Pennsylvania and there are at least three unaffiliated

1 competitive carriers with operational, fiber-based collocation facilities in the
2 wirecenters at both ends of the “route”. For the wholesale trigger, Verizon includes
3 all of the pairs of wire centers that have two or more carriers that offer transport
4 services to other carriers. In order to validate that the routes are operationally
5 ready, Verizon states that it has conducted fairly extensive inspections of each
6 collocation arrangement to ensure that the equipment is powered and that the carrier
7 has indeed terminated non-Verizon fiber optic cable into its collocation
8 arrangement.

9
10 **Q. Are there any weaknesses or flaws with basing the trigger analysis only on**
11 **existing collocation arrangements?**

12 A. Yes. Verizon’s methodology is very simplistic, makes assumptions regarding the
13 facilities beyond their points of inspection, and shortcuts the granular route-by-route
14 required analysis. Verizon’s approach was obviously developed to include as many
15 routes in the trigger analysis as possible so as to remove as many routes from
16 unbundling obligations as possible. The process of reviewing carrier collocations
17 and wire center pairs is far from an automatic indicator of competitive facilities
18 between wire centers. Sprint is concerned that this process will result in an
19 overstatement of transport routes that are placed on a list that no longer require
20 unbundling.

21

1 **Q. Has Verizon validated that a CLEC is actually providing transport service or**
2 **offering wholesale service between two Verizon wire centers prior to counting**
3 **the CLEC in the trigger analysis?**

4 A. No. Verizon has simply checked each collocation facility to ensure there is
5 “powered equipment in place (i.e., it is operational), and that the collocating carrier
6 had non-Verizon fiber optic cable that both terminated at its collocation facility and
7 left the wire center.⁵ Verizon has provided no evidence that the CLEC has actually
8 self-provisioned the facility it claims and is truly providing transport service
9 between two Verizon wire centers. Further, there is no evidence that there are
10 end-to-end circuits, as I discuss immediately below. For example, looking at the
11 diagram below, a CLEC may have fiber collocations in Wire Center A and Wire
12 Center B and, according to Verizon’s simplified trigger analysis, would therefore
13 have a route between A and B. But, that CLEC may be solely using its facilities
14 from Wire Center A and from Wire Center B to backhaul traffic from loops it
15 serves in A and B. That CLEC should not be included in any trigger analysis to
16 remove Verizon’s obligations for unbundling dedicated transport between those two
17 locations.

⁵ Verizon Statement 1, page 46.

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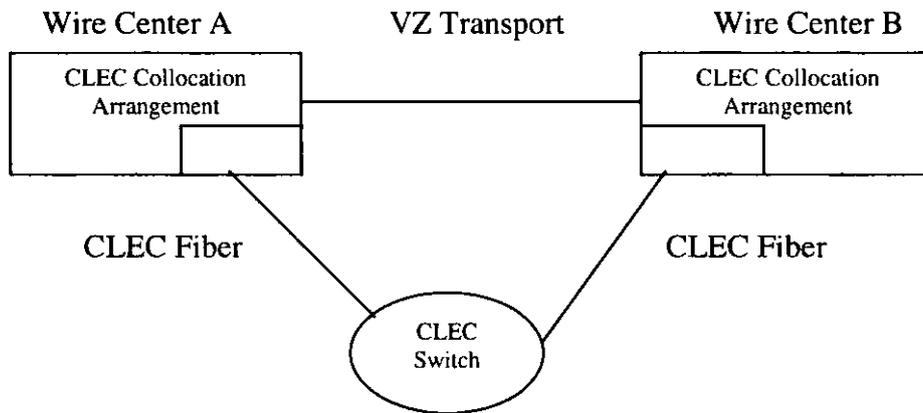
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Q. Are there other examples of flaws in Verizon's transport trigger analysis?

10

A. Yes. It is possible for a carrier to own or lease via an IRU only *portions* of a specific route. Specifically, a carrier may have built their own facilities from the collocation site into the manhole just outside the Verizon central office, but they do not own or control under an IRU lease the entire interoffice segment of the route between the manholes.

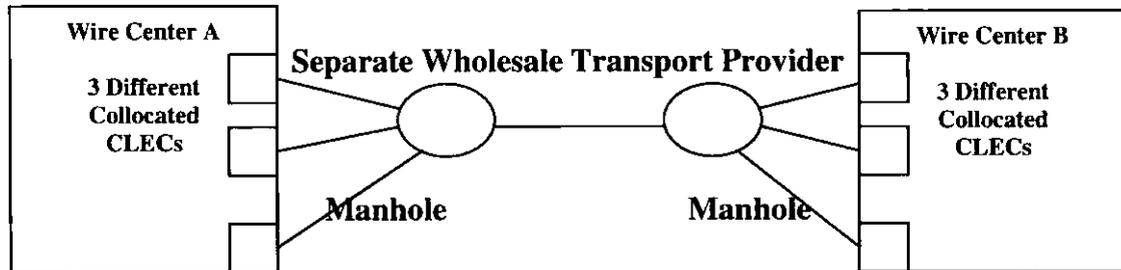
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16

For example, three different CLECs may indeed have collocations in Verizon Wire Center A and Wire Center B with their own fiber in and out of the collocation site into the first manholes. However, all three CLECs may lease on a non-IRU basis fiber from the same wholesale provider for the interoffice transport between the manholes. This example demonstrates the weakness of simply counting collocations and fiber going in and out of the wire center. The result is making the flawed assumption that all three CLECs have found it to be technically and economically feasible to self-provision transport, end to end, between Wire Center

23

1 A and Wire Center B when, in reality, they have not. In this example, no
2 competitive triggers have been met.



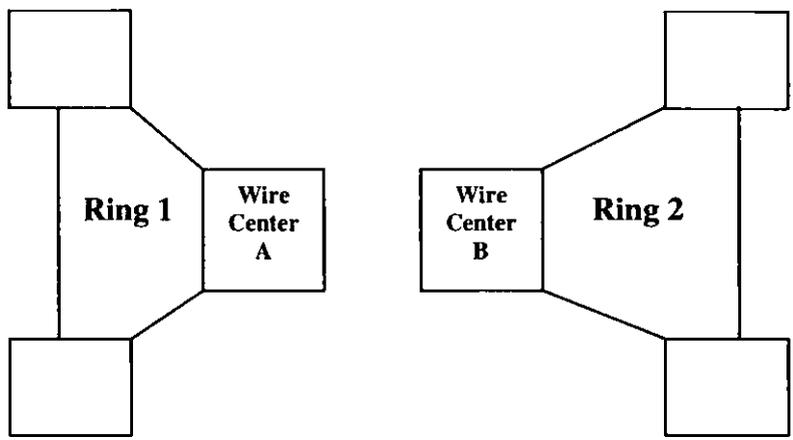
8

9 Another version of this scenario that would not qualify under the competitive
10 trigger criteria is where the carrier owns the interoffice transport fiber between the
11 manholes, but does not necessarily own the transport from the manholes into their
12 fiber based collocation site. Instead, they are leasing that fiber on a short-term
13 basis from another provider who is collocated in the same end office. Therefore,
14 under these scenarios, the CLEC doesn't actually own the entire transport route –
15 end to end.

16

17 Another possible weakness in simply evaluating collocation sites is that fiber-based
18 collocation at Wire Centers A and B does not necessitate a conclusion that
19 dedicated transport routes exist between Wire Centers A and B. It is possible that
20 the carrier may service its collocation arrangements in Wire Centers A & B via
21 separate non-connected fiber rings, as illustrated below.

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Q. Does Verizon make any other broad assumptions in completing its dedicated transport trigger analysis?

A. Yes.

Q. Can you please explain?

A. Yes. Verizon assumes that every collocation so designated contains “channelization” of the OCn facilities. That is, Verizon assumes that any carrier that has deployed its own fiber and attached OCn electronics to the fiber will channelize the OCn system into all lower levels of bandwidth -- such as a DS-3 and DS-1 at each location -- with lit fiber. In support of its assumptions, Verizon presumes that this is “consistent with standard industry practices.”⁶

There is no universal standard that is applied to the channelizing of every equipment terminal at every location in a common or standard way. For Verizon to imply the presence of such a standard is not correct. Each terminal is uniquely

⁶ Verizon Statement 1.0, page 48.

1 equipped with the amount and type of channel interface equipment necessary to
2 serve the specific type and quantities of services that will utilize the terminal.
3 Every route is unique, yet Verizon has applied a broad assumption rather than
4 confirm what specific OCn system channelization has actually occurred on the
5 routes that Verizon listed as meeting the FCC's triggers. A route can not meet the
6 test of operational readiness if the proper channel interface equipment is not in
7 place.

8
9 **Q. Does Verizon also assume that dark fiber will always be present?**

10 **A.** Yes. Verizon assumes that dark fiber will exist on any route that meets the self-
11 provisioning trigger. Verizon states, on pages 51 and 52 of Verizon Statement
12 1.0, that evidence of "lit" fiber automatically is evidence that a carrier has self-
13 provisioned dark fiber.

14
15 Transport routes can not be removed from Verizon's unbundling obligations
16 simply based on such broad assumptions. These assumptions need to be validated
17 by real world data. Later in my testimony on loop triggers, I discuss the fallacy of
18 assuming dark fiber that exists wherever lit fiber is present. The same discussion
19 is applicable here to transport. Namely, Verizon incorrectly assumes that since
20 spare fibers are pulled into the central office cable vault and then to the
21 collocation site, then such spare/dark fiber automatically and actually exists for
22 the entire route in question. However, those spare fibers may not extend beyond
23 the first fiber splice outside the central office.

1 **Q. Does Verizon make any assumptions about wholesale facilities?**

2 A. Yes. Verizon again bases supposition upon more supposition. Verizon assumes
3 incorrectly that any carrier announcing in some way that it offers wholesale
4 facilities, but does not announce specific route(s), must be wholesaling on each
5 and every route – regardless of verifying the purpose or use of that route. Verizon
6 states that “the vast majority of competing carriers that have deployed fiber
7 transport facilities for their own use have also indicated in public statements and
8 filings that they will lease those facilities to other carriers.”⁷ Verizon’s approach
9 of making such assumptions and not verifying their claims simply does not suffice
10 for purposes of a granular analysis required under the TRO.

11
12 **Q. As a result of these flaws, what do you recommend as to Verizon’s transport
13 trigger case?**

14 A. Verizon’s “analysis” and resultant conclusions are not reliable for purposes of
15 concluding that the FCC’s dedicated transport triggers have been satisfied. Verizon
16 has not substantiated that the routes they identify on a route-by-route basis are
17 indeed actual routes capable of meeting the criteria for the triggers.

18
19 **Q. Does Verizon list Sprint as a trigger-qualifying wholesaler or self-provider of
20 dedicated transport?**

⁷ Verizon Statement 1.0, page 45.

1 A. Yes. Sprint is included in Verizon's identified lists as both a self-provisioning and
2 wholesaler of dark fiber and both self-provisioning and wholesaling of DS-3s for 15
3 routes in the Philadelphia area.
4

5 **Q. Is Verizon's claim regarding Sprint correct?**

6 A. No. Sprint does not own any dark fiber for the routes in question, nor does Sprint
7 own or lease any transport facilities for the provision of competitive local service in
8 Pennsylvania. Because Sprint does not own or offer to lease dark fiber where
9 Verizon claims, the 15 Sprint-attributed wholesale routes counted by Verizon are
10 incorrect. The 15 Sprint routes listed are used solely to connect collocation sites
11 with the Sprint national and international networks and do not offer competitive
12 local services. The 15 Verizon-identified Sprint routes should not be counted in
13 any trigger analysis for Pennsylvania.
14

15 **Q. Are there other examples where Verizon routes are not consistent with the**
16 **specific carrier responses to data requests?**

17 A. Yes. I have reviewed Verizon Statement 1.1, including exhibits 3 and 6. I have
18 also reviewed the data request responses (including confidential) provided in this
19 proceeding. When I compare Verizon's claims with the data responses submitted in
20 this proceeding, it is clear that Verizon made errors as a result of its over-simplified
21 and incorrect identification of route triggers.
22

1 For example, Verizon Exhibit 3 (Schedule B) indicates that **[BEGIN**
2 **PROPRIETARY]**

3
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17
18
19 **[END PROPRIETARY].**

20
21 **IV. LOOPS**

22 **Q. Please address the criteria used by the FCC to determine non-impairment for**
23 **high capacity loops.**

24 A. The FCC's TRO, similar to its transport triggers, establishes separate location-
25 specific competitive triggers for self-provisioned providers and for wholesale
26 providers. The self-provisioning trigger applies to dark fiber and DS-3 loops. If a

1 specific customer location is served by at least 2 self-provisioned providers, the
2 state Commission “shall find that a requesting telecommunications carrier is not
3 impaired without access to” DS-3 and dark fiber loops on an unbundled basis.

4 Similarly, if a customer location is served by at least 2 wholesalers, the requesting
5 telecommunications carrier is not impaired without access to dark fiber, DS-3 and
6 DS-1 loops. *Id.*

7
8 **Q. Has Verizon determined if the self provisioning or the wholesale trigger has**
9 **been met for any location?**

10 A. Verizon has provided a list of 63 customer locations where it believes one or both
11 of the competitive triggers have been met. In its December 19, 2003 Supplemental
12 Testimony, Verizon identified the locations as follows⁸:

- 13 1) 3 customer locations that meet the DS1 wholesale trigger.
- 14 2) 61 customer locations that meet the DS-3 self-provisioning trigger
- 15 3) 36 customer locations that meet the DS-3 wholesale trigger
- 16 4) 57 customer locations that meet the dark fiber self-provisioning trigger.

17 In doing so, Verizon has attempted to apply certain criteria to generalize trigger
18 assumptions.

19
20 **Q. What are some of the assumptions that Verizon has included in defining where**
21 **triggers occur?**

⁸ Verizon Statement 1.1, page 22.

1 A. Verizon first incorrectly assumes that any provider of lit fiber facilities will
2 automatically be a provider of dark fiber.⁹ The presence of lit fibers in any one
3 section of fiber cable does not force a conclusion that spare fiber exists. In fact, the
4 fiber cable cross-section for each fiber cable segment, in any ILEC or CLEC
5 network, will have varying amounts of spare fibers including some cross-sections
6 with little or no spare. These spare fibers may or may not be spliced into adjoining
7 cable segments. As an illustrative example, a CLEC may enter a building with a 24
8 fiber cable with 8 of the fibers lit. The fiber cable which feeds it may only be a 12
9 fiber with all fibers lit. The 24 fiber size was chosen to prevent additional
10 construction costs for placing another fiber cable in the building entrance facility.
11 In this example, the spare fibers cannot be offered because they do not go beyond
12 the building entrance facility. Spare fiber capacity does not automatically and
13 universally create an ability to offer dark fiber.

14
15 ILEC and CLEC fiber networks are rarely built end to end at a single point in time,
16 but are comprised of many cable segments spliced end to end that have been placed
17 at various points in time and for varying demand forecasts. Certain segments with
18 little or no spare fibers in the fiber sheath may create a “bottle-neck” for any facility
19 provisioning and preclude the offering of dark fiber along that route. If spare fibers
20 are limited or not contiguous, the provider may also opt to restrict any fiber
21 availability on that route due to its own facility requirements. For dark fiber to be

⁹ Verizon Statement 1.1, page 24.

1 available, it must be available for the entire route for which a carrier seeks to lease
2 facilities. Verizon is simply incorrect in assuming that lit fiber automatically means
3 the offering of dark fiber from the same provider.

4
5 **Q. What other assumption has Verizon made in claiming to have established its**
6 **triggered buildings lists?**

7 A. Verizon has assumed that since all or most of the buildings have a minimum point
8 of entry (MPOE), all CLECs have access to all of the customers in all of the
9 buildings. Verizon has asked this Commission to make a blanket finding for all
10 buildings on its lists and not complete separate findings for each building. Verizon
11 itself has not been able to ascertain whether each building on its list has a MPOE
12 that provides full access to all customers or does not. The FCC TRO asks state
13 commissions to validate triggers on a location-specific basis. What Verizon has
14 done is generalized – or more specifically has grouped all buildings by generalizing
15 assumptions – and then has incorrectly applied these generalizations to all locations
16 listed.

17
18 Paragraph 336 of the TRO specifically gives the state commissions the ability to
19 look at barriers beyond a simple trigger analysis at each building and seek a petition
20 for waiver from the FCC even if actual triggers are met. It is not a hard and simple
21 “if triggers are met” absolutism such that this Commission must find unimpairment.

22

1 **V. DS-0/DS-1 ECONOMIC CROSSOVER**

2 **Q. Has Sprint developed an economic crossover analysis?**

3 A. Yes. Exhibit JDD-1, attached to my testimony, calculates the average economic
4 crossover, expressed in the number of analog loops, that a CLEC would experience
5 in serving an analog customer within the serving areas of three large ILECs within
6 the Commonwealth of Pennsylvania.

7
8 **Q. What is the appropriate cut-off for multiline DS-0 customers i.e. at what point
9 is it more economical to serve a multiline customer with a DS-1 loop?**

10 A. The Sprint crossover model results indicate that for a quantity of up to fifteen DS-0s
11 at a customer's location purchasing individual loops is more cost effective than
12 purchasing a single DS-1.

13
14 **Q. What are the cost components used in the economic cost crossover model for
15 the provision of service over a DS-1 facility?**

16 A. Sprint's model includes the monthly recurring charges of the unbundled network
17 element DS-1 loops, the unbundled network element non-recurring charges for DS-
18 1 loops, and the monthly costs of a channel bank installed at the customer's
19 premises that is used to multiplex multiple DS-0 equivalent voice channels onto a
20 DS-1 loop facility.

21
22 **Q. What are the cost components in the economic cost crossover model for the
23 provision of service over a DS-0 facility?**

1 A. The model includes the monthly recurring charges of the unbundled network
2 element DS-0 loops and the non-recurring charges for unbundled network element
3 DS-0 loops. The non-recurring charges reflect the charges for the initial DS-0 loop
4 and each additional loop ordered.

5

6 **Q. What are the sources of unbundled network element prices for the monthly**
7 **recurring services and the non-recurring services?**

8 A. Prices for Verizon North are based on Sprint's current interconnection agreement
9 with Verizon North. Prices for Verizon Pennsylvania are based on rates from Tariff
10 PA-PUC-No.216. Sprint's rates are taken from its most current cost studies.

11

12 **Q. What is the source of the access line data used to determine the weighted**
13 **average UNE prices?**

14 A. The access line data is taken from the FCC's Synthesis Model (SM) that has been
15 adjusted with Universal Service Administrative Company (USAC) lines in service.
16 The SM provided lines by wire center as of 2000. For each company in the study,
17 the difference between the lines in the SM and lines from USAC was applied to the
18 wire center level line counts to determine a more current estimate of access lines for
19 the studied ILECs.

20

1 **Q. What additional variables are included in the calculations?**

2 A. A weighted average cost of capital input is used for amortizing the non-recurring
3 charges. For the calculation of the DS-0/DS-1 crossover point, Sprint used the cost
4 of capital for the Sprint local company properties within Pennsylvania.

5

6 **Q. How are the non-recurring unbundled network element costs treated in the
7 economic crossover analysis?**

8 A. The non-recurring unbundled network element charges for establishing DS-0 or
9 DS-1 services are amortized over a 24-month period using Sprint's weighted cost of
10 capital.

11

12 **Q. How is the monthly cost of the channel bank at a DS-1 customer premises
13 calculated?**

14 The monthly cost of the equipment is calculated by multiplying the total material
15 cost times an annual charge factor that accounts for cost of capital, depreciation,
16 income tax, and maintenance. The annual cost is then divided by twelve to
17 calculate the monthly cost. Material prices reflect the size of the channel bank and
18 cards that would be installed at a customer premises capable of multiplexing one
19 DS-1 into DS-0s. Labor related to the installation of the customer premises channel
20 bank was amortized over 24 months.

21

22 **Q. How are these cost components used to calculate a state-wide average
23 crossover between unbundled DS-0 and DS-1 loops?**

1 A. The model calculates the UNE provisioning costs of both DS-0 and DS-1 facilities
2 as described above for each central office in the Commonwealth of Pennsylvania
3 served by the Verizon North, Verizon Pennsylvania, and Sprint. A weighted
4 average cost for each MRC and NRC is computed by multiplying the central office
5 specific result by the percentage of access lines in that central office. The weighted
6 average cost of a DS-1 loop is then divided by the weighted average cost of a DS-0
7 loop.

8

9 **Q. What is the economic crossover result produced in the model?**

10 A. The model results indicate that for a quantity of up to fifteen DS-0s at a customer's
11 location purchasing individual loops is more cost effective than purchasing single
12 DS-1. Above fifteen DS-0s, the DS-1 becomes the more cost effective means of
13 providing service to the customer.

14

15 **VI. SUMMARY OF TESTIMONY**

16 **Q. Would you please summarize your testimony?**

17 A. Verizon's dedicated transport case is flawed and unreliable because Verizon has not
18 properly substantiated on a route-specific basis if a route actually exists, is
19 operationally ready, and the trigger services are being offered. Verizon has applied
20 a series of assumptions that simply have not been validated. The inspections
21 claimed by Verizon only measure that active fiber reaches beyond the central office
22 cable vault. This Commission must ensure that Verizon correctly and fully supports
23 each individual route with actual route-specific facts – something that Verizon has

1 not done. Verizon's resultant lists of routes and claims concerning the applicable
2 triggers are based on assumptions and not verified facts. Verizon has failed to
3 factually meet the FCC's triggering requirements. Due to the flaws and
4 assumptions, the Commission should reject Verizon's dedicated transport route
5 filing.

6
7 Verizon has also applied erroneous assumptions in the determination of what
8 services, and therefore what competitive triggers are present, at each specific
9 customer locations it seeks to remove from unbundling. Verizon's assumption
10 related to the presence of dark fiber based on lit fiber is clearly flawed. Verizon's
11 analysis is also flawed in that Verizon has incorrectly assumed that lit fiber
12 automatically means that each specific location includes demuxing electronics to all
13 levels of service. Verizon also failed to consider – or has assumed away – any
14 impact of non-numerical criteria such as rights-of-way or the required access to all
15 customers at each specific location, but chose instead to present this Commission
16 with a perspective that competitive triggers are a simple counting exercise.

17
18 Verizon fails to meet the FCC requirement for a fact-based showing that actual
19 triggered services are available to all customers at each location and for each
20 service level for which Verizon wishes to remove the selected building from
21 unbundling. Verizon has failed to adequately support with facts any triggered
22 building list and should have their loop filing rejected.

23

1 Finally, Sprint recommends that the correct DS-0/DS-1 economic crossover for use
2 in Pennsylvania is 15, as addressed above.

3

4 **Q. Does this conclude your testimony?**

5 A. Yes, it does.

DOCUMENT

Sprint Statement 2.1

1-000 3 0099

*Hoy TK
1/28/04*

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Investigation into the :
Obligation of Incumbent : Docket No.
Local Exchange Carriers : I-00030099
to Unbundle Network Elements :

DOCKETED
FEB 12 2004

REBUTTAL TESTIMONY

OF

~~**JAMES D. DUNBAR, JR.**~~

JAMES A. APPLEBY

On Behalf Of Sprint Communications Company, L.P.

Date Served: January 20, 2004

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TABLE OF CONTENTS

I. QUALIFICATIONS	1
II. PURPOSE OF REBUTTAL TESTIMONY.....	1
III. DS-0/DS-1 ECONOMIC CROSSOVER.....	2
IV. SUMMARY OF REBUTTAL TESTIMONY.....	4

1 **I. QUALIFICATIONS**

2 **Q. Please state your name, place of employment, and business address.**

3 A. My name is James D. Dunbar, Jr. I am employed by Sprint/United Management
4 Company, an affiliate of Sprint Communications Company L.P. ("Sprint"), as a
5 Senior Manager – Network Costing. My business address is 6450 Sprint Parkway,
6 Overland Park, Kansas, 66251.

7

8 **Q. Are you the same James D. Dunbar, Jr. who submitted prefiled Direct**
9 **Testimony in this proceeding?**

10 A. Yes, I am.

11

12 **Q. Is this prefiled Rebuttal Testimony submitted on behalf of Sprint**
13 **Communications Company, L.P. (hereinafter "Sprint")?**

14 A. Yes.

15

16 **II. PURPOSE OF REBUTTAL TESTIMONY**

17 **Q. What is the purpose of your Rebuttal Testimony?**

18 A. The purpose of this Rebuttal Testimony is to express concerns with the DS-0 to DS-
19 I economic crossover testimony presented by the panel of witnesses testifying on
20 behalf of the Pennsylvania Carriers' Coalition ("hereinafter PCC Panel").

21

22 The PCC Panel recommends a DS-0/DS-1 crossover point based on customer Total
23 Billed local and intraLATA toll revenue ("TBR") that is tied to a need for -- or the

1 absence of a need for -- customer premises equipment (CPE) upgrades. Such a
2 revenue and CPE based crossover requires a complete knowledge of a customer's
3 CPE inventory and revenues at all times and is just not an administratively
4 workable solution. A DS-0/DS-1 crossover is solely a function of the carrier's costs
5 and where it becomes economical for the carrier to serve customer DS-0s with DS-
6 1 facilities. As set forth in my Direct Testimony, I continue to recommend a line-
7 based crossover, with a 15 line crossover in particular.

8

9 **III. DS-0/DS-1 ECONOMIC CROSSOVER**

10 **Q. Have you read PCC Statement 1.0?**

11 A. Yes, I have.

12

13 **Q. As a result of your reading of that testimony has Sprint changed its position on**
14 **this issue?**

15 A. No, it has not. The PCC Panel proposed TBR crossover employs revenue and CPE
16 qualifiers that are totally unnecessary and unworkable. A TBR and CPE-based
17 crossover requires nothing short of a complete customer inventory of their CPE
18 capability and revenues. The relevant crossover inquiry, however, should be based
19 on the carrier's provisioning costs alone -- i.e. at what point is it more economical
20 to provision the customer's DS-0s using DS-1 loops and multiplex equipment rather
21 than individual DS-0 loops. Sprint has proposed such a workable cost-based
22 crossover expressed in DS-0 line counts.

23

1 **Q. Why do you believe that a crossover based on lines is the correct measure?**

2 A. A crossover based on lines, if calculated as Sprint proposes, addresses the cost
3 choice that the carrier has in multiplexing the customer DS-0s onto DS-1 loops
4 without any customer CPE involvement. The serving carrier has a cost choice
5 relative to provisioning any number of customer DS-0s with an appropriate number
6 of DS-1 loops using carrier provided DS0/DS-1 multiplexing at the customer
7 location without any customer CPE conversion. This is a cost decision that every
8 carrier makes by matching the cost of individual DS-0 circuits to DS-1 circuit and
9 DS-0/DS-1 multiplexing costs. A carrier will provision its facilities in a way that
10 minimizes its costs.

11

12 **Q. Why are carrier costs – as opposed to customer CPE uses -- important when
13 determining a DS-0 to DS-1 cut-off, as required in the TRO?**

14 A. The goal of determining an appropriate crossover is to develop a measured point at
15 which the facilities deployed to serve a customer take on the characteristics of an
16 enterprise customer versus a mass market customer. This should not be tied at all to
17 whether or not a customer has DS-1-capable CPE. For example, a large customer
18 with 1,000 DS-0 lines of Centrex is certainly not a mass market customer even
19 though it may by service definition use all DS-0s.

20

21 A DS-0/DS-1 crossover should simply focus on the costs to provision customer DS-
22 0s with all DS-0 end-to-end facilities versus the costs to provision the DS-0s with
23 DS-1s and multiplexing. There is a cost point at which the DS-1 based facilities are

1 less costly. That cost point, expressed as the number of DS-0s at which it occurs,
2 becomes the boundary at which the total customer demand defines it as an
3 enterprise customer. This is a relatively simple calculation and not the
4 tremendously burdensome process that a TBR and CPE customer inventory would
5 require.

6
7 **IV. SUMMARY OF REBUTTAL TESTIMONY**

8 **Q. Would you please summarize your testimony?**

9 A. A DS-0/DS-1 crossover must consider the costs a carrier will realize when
10 provisioning DS-0s to the customer. The specific crossover point should be based
11 on the number of DS-0s at which it becomes more cost effective for the carrier to
12 provision facilities using DS-1s and electronics than multiple DS-0s. This
13 calculation is relatively simple. A TBR and CPE-based crossover that requires a
14 customer-by-customer CPE and revenue inventory is administratively unworkable,
15 unnecessarily burdensome, and should not be considered in this TRO proceeding.

16
17 **Q. Does this conclude your testimony?**

18 A. Yes, it does.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

DOCKETED

FEB 12 2004

DIRECT TESTIMONY OF

JOHN MAYO, PH.D.

**ON BEHALF OF
AT&T COMMUNICATIONS
OF PENNSYLVANIA, LLC.**

DOCUMENT DOCKET NO. I-00030099

AT&T Stmt. 2.0

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January 9, 2004

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PAD2

1 I. **INTRODUCTION**

2

3 Q. **PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

4 A. My name is John W. Mayo. My business address is Georgetown
5 University, McDonough School of Business, Old North Building, 37th and
6 O Streets, N.W., Washington, D.C. 20057.

7

8 Q. **WHAT IS YOUR OCCUPATION?**

9 A. I am Dean of the McDonough School of Business at Georgetown
10 University and Professor of Economics, Business and Public Policy at
11 Georgetown University in the McDonough School of Business. I am also
12 the Executive Director of the Center for Business and Public Policy in the
13 McDonough School at Georgetown University.

14

15 Q. **WOULD YOU PLEASE SUMMARIZE YOUR QUALIFICATIONS?**

16 A. Yes. I hold a Ph.D. in economics from Washington University in St. Louis
17 (1982), with a principal field of concentration in industrial organization,
18 which includes the analysis of antitrust and regulation. I also hold both an
19 M.A. (Washington University, 1979) and a B.A. (Hendrix College, Conway,
20 Arkansas, 1977) in economics.

21 I have taught economics, business and public policy courses at
22 Georgetown University, Washington University, Webster University, the
23 University of Tennessee, and at Virginia Tech (VPI). Beginning in the fall

1 of 1999 and continuing until July 2001, I served as Senior Associate Dean
2 of the McDonough School of Business. Also, I have served as the Chief
3 Economist, Democratic Staff of the U.S. Senate Small Business
4 Committee. Both my research and teaching have centered on the
5 relationship of government and business, with particular emphasis on
6 regulated industries.

7 I have authored numerous articles and research monographs, and
8 have written a comprehensive text entitled Government and Business:
9 The Economics of Antitrust and Regulation (with David L. Kaserman, The
10 Dryden Press, 1995). I have also written a number of specialized articles
11 on economic issues in the telecommunications industry. These articles
12 include discussions of competition and pricing in the telecommunications
13 industry and have appeared in academic journals such as the RAND
14 Journal of Economics, the Journal of Law and Economics, the Journal of
15 Regulatory Economics, and the Yale Journal on Regulation. A more
16 detailed accounting of my education, publications and employment history
17 is contained in Attachment 1.

18
19 **Q. WHAT IS THE ISSUE AT STAKE IN THIS PROCEEDING?**

20 A. The Telecommunications Act of 1996 ("the Act") seeks to open local
21 exchange telephone service to competition. In pursuit of this aim, the Act
22 requires that incumbent local exchange companies (ILECs) provide
23 nondiscriminatory access to unbundled network elements (UNEs) to other
24 telecommunications providers. The provision of UNEs is guided by

1 Section 251(d)(2) which indicates that "[in] determining what network
2 elements should be made available ...the Commission shall consider at a
3 minimum, whether – (A) access to such network elements as are
4 proprietary in nature is necessary; and (B) the failure to provide access to
5 such network elements would impair the ability of the telecommunications
6 carrier seeking access to provide the services that it seeks to offer."

7 Thus, where such "impairment" exists, ILECs are required to
8 provide access to UNEs. While the specific issues raised by
9 Section 251(d)(2) are applicable to each of the specified network
10 elements, the issue raised in this proceeding pertains to the FCC's finding
11 at the national level that "requesting carriers are impaired without access
12 to unbundled local circuit switching when serving mass market
13 customers."¹ In making this finding, however, the FCC has authorized the
14 state public utility commissions to assess impairment in the mass market
15 in a more geographically detailed manner.

16
17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 **A.** The purpose of my testimony is to provide an economic framework within
19 which the Commission can evaluate the merits of providing the unbundled

¹ *In the matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Federal Communications Commission, 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, "Report and Order and Order on Remand and Further Notice of Proposed Rulemaking," No. FCC 03-36, Released August 21, 2003 (hereafter, the "Triennial Review Order," or "TRO"), ¶ 419.*

1 network elements that AT&T is seeking to preserve in Pennsylvania.

2 While the specific statutory language governing this decision is provided in
3 Section 251(d)(2), a proper consideration of this issue requires that the
4 issue be properly framed.

5

6 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

7 A. In Section II of the testimony, I provide an overview of the major opinions
8 that I have reached in this testimony. In Section III, I discuss the general
9 economics of the impairment issue. With this discussion in hand, the
10 testimony then turns in Section IV to a detailed discussion of a so-called
11 "trigger analysis" that must be conducted as part of this proceeding.
12 Section V then addresses the frequently made allegation that the provision
13 of UNEs is contrary to the Telecommunications Act's aim because it
14 discourages investment in the telecommunications industry. Section VI
15 concludes the testimony.

16

17 **II. SUMMARY OF CONCLUSIONS**

18

19 **Q. BASED ON YOUR ANALYSIS, WHAT WOULD BE THE**
20 **CONSEQUENCES FOR CONSUMERS IN PENNSYLVANIA IF THE**
21 **COMMISSION WERE TO FORECLOSE UNBUNDLED ACCESS TO**
22 **LOCAL CIRCUIT SWITCHING FOR MASS-MARKET CUSTOMERS?**

1 A. Discontinuing the provision of unbundled circuit switching for the mass
2 market in Pennsylvania would impose a huge cost on the state. The
3 opportunity for consumers to realize the benefits of competition – lower
4 prices, greater choices, and heightened rates of innovation – will be
5 foregone. One might retort that the costs are not so significant because
6 today's monopoly will simply transition to tomorrow's monopoly. With the
7 emergence of "all-distance" telephony, however, the cost is not merely
8 foregone competition in local exchange markets. Any policy-based failure
9 to enable competition for local exchange telephone service will, in the face
10 of the emerging "all-distance" provision of telephony, spell an end to
11 competition in this broader telecommunications arena.

12

13 **Q. HAVE YOU REACHED OTHER, SPECIFIC, CONCLUSIONS?**

14 A. Yes. These include:

- 15 • The Telecommunications Act, as the Supreme Court has now
16 affirmed, is uncompromising in its embrace of competition-enabling
17 policies. Thus, the state is directed to use all reasonable means
18 necessary to open local exchange markets to competition.
- 19 • The past eight years have proven that access to unbundled
20 network elements has been a critical path for entry into local
21 exchange markets.
- 22 • The FCC has made a national finding that, in the absence of
23 unbundled access to local circuit switching, new entrants are

1 impaired from entry.

2 • A state-level analysis of the impairment issue is necessarily a two-
3 stage approach: (1) assessing whether there is such clear and
4 overwhelming "simple" evidence of actual competition that a finding
5 of "no impairment" can easily be reached, and, if not, (2) a full-
6 blown test of the existence and magnitude of prevailing barriers to
7 entry.

8 • A properly performed impairment analysis requires the
9 establishment of an economically relevant geographic market. The
10 broader the geographic market, the more stringent the
11 requirements must be for a firm to qualify as satisfying the so-called
12 "triggers" test.

13 • Under Verizon's proposed geographic market definition, there are a
14 number of situations in which firms may be "identified," but which
15 should not be counted toward a triggers threshold. Indeed, to do so
16 would be directly contrary to the pro-competitive aims of the
17 Telecommunications Act.

18 • Because entry via UNE-P and entry via UNE-L are complementary,
19 rather than substitute, strategies, a public policy that restricts entry
20 via UNE-P is likely to diminish entry, and therefore competition, via
21 both entry paths.

22 • Allegations that the provision of UNEs at economic cost will retard

1 necessary investment in telecommunication infrastructure are
2 flawed as a matter of both theory and empirical experience.

3
4 **III. THE ECONOMICS OF IMPAIRMENT**

5
6
7 **Q. IS IT POSSIBLE TO PUT THE IMPAIRMENT ISSUE INTO THE**
8 **LARGER CONTEXT OF THE EVOLUTION OF**
9 **TELECOMMUNICATIONS POLICY?**

10 A. Yes. While the technical and legal dimensions of the issue of
11 "impairment" have proven to be contentious to this point,² the
12 Telecommunications Act imposes a fundamental change in the
13 responsibilities of public utility commissions that regulate the
14 telecommunications industry. In particular, the history of regulation has
15 traditionally been one of *protection*: protection of the monopoly from
16 competitors, and protection of consumers from the monopolist. The
17 fundamental change embodied in the Telecommunications Act of 1996 is
18 that, rather than maintaining a policy of protecting consumers by
19 preventing incumbent monopolists from exercising their monopoly power,
20 the Act embraces a policy of *enabling competition*. The Act's approach
21 requires a more affirmative set of actions than any regulatory paradigm
22 employed in the past. Not merely is competition to be permitted, or
23 tolerated, or even accommodated – instead, regulatory commissions are
24 now directed to seek ways to enable competition affirmatively.

² For a review, see *TRO*, ¶¶ 15-30

1

2 **Q. IN LIGHT OF THE CONSIDERABLE CONTROVERSY THAT HAS**
3 **PERVADED THE ACT'S INTRODUCTION OF COMPETITION INTO**
4 **THIS INDUSTRY, IS IT CLEAR THAT CONGRESS REALLY DID**
5 **INTEND FOR COMMISSIONS TO ENABLE COMPETITION FULLY?**

6 A. Yes. In fact, in its 2002 *Verizon* decision, the Supreme Court was quite
7 clear regarding the Congressional intent behind the Act.³ The Court noted
8 that Congress sought "*an entirely new objective of uprooting monopolies*"
9 and that the policy charge was "*to reorganize markets by rendering*
10 *regulated utilities' monopolies vulnerable to interlopers.*"⁴ (emphasis
11 added) Thus, in light of the Supreme Court's judgment, there can be no
12 doubt that the state commissions' prime directive is to cast off the
13 anachronistic tendency to protect the incumbent utilities from competition
14 and, instead, to undertake policies that enable competition -- *i.e.*, the
15 competitive process itself -- to become effective.⁵ Indeed, the Court went
16 so far as to note that "the Act appears to be an explicit disavowal of the
17 familiar public-utility model...in favor of novel rate setting designed to give
18 aspiring competitors every possible incentive to enter local retail telephone
19 markets, short of confiscating the incumbents' property."⁶ For a more

³ *Verizon Communications, Inc. v. FCC*, 535 U.S. 467 (2002) ("*Verizon*").

⁴ *Verizon*, 535 U.S. at 488-489.

⁵ The laudable goal of promoting competition through competition-enabling policies is distinct from misguided policies that protect individual competitors. Economists widely endorse the former, buttressed by the passage of the Telecommunications Act, while economists and antitrust scholars routinely denounce the latter

⁶ *Verizon*, 535 U.S. at 489.

1 detailed discussion of this "meta-message" from the Supreme Court
2 Opinion, see Appendix 2.⁷

3

4 **Q. HOW, SPECIFICALLY, DID THE ACT SEEK TO ENABLE**
5 **COMPETITION?**

6 A. It did so by enabling three distinct but non-exclusive pathways for new
7 entrants to enter local exchange markets. First, the Act permits new
8 entrants to build their own parallel networks to those of the incumbents'
9 networks. Second, the Act permits new entrants to simply buy the retail
10 services of the incumbent monopolies and resell the unaltered services at
11 retail. Finally, and most creatively, the Act conceives that new entrants
12 may enter by purchasing various elements of the local exchange network
13 while self-provisioning others. The Act requires that incumbents unbundle
14 these elements, creating "unbundled network elements," or UNEs, that
15 new entrants can purchase at economically efficient rates. To the extent
16 that some new entrants have not been in a position to self-provision any of
17 the local exchange network elements, they have, to date, been permitted
18 to purchase the entire array of elements as a "platform" or what has
19 become know as UNE-P.

20 The wisdom of eight years of experience with these alternative
21 entry methods has now revealed the advantages of the UNE-P entry
22 method. Specifically, investment by new entrants in massive facilities to

⁷ http://www.rnejournal.com/articles/kaserman_sept02.pdf

1 develop parallel networks is, with the sole exception of highly
2 concentrated business districts, simply economically infeasible. In
3 addition, in order for competition to be successful, it is necessary for new
4 entrants to be able to differentiate their services from the incumbent's.
5 Consequently, the resale option is less attractive. This, then, leaves hope
6 for the emergence of local telephone competition resting largely, if not
7 exclusively, on the availability of UNEs, and the UNE Platform (UNE-P),
8 as the entry vehicle.

9 Recognizing UNE-P as the most likely successful entry medium,
10 the Bell operating companies have sought in public fora to block this entry
11 path. The argument: that by making UNE-P unavailable, new entrants will
12 choose to enter local exchange markets by making greater initial
13 investments in their own facilities. This greater investment by new
14 entrants in their own facilities will, in turn, it is argued, create a more
15 meaningful and enduring "real" competition in local exchange markets
16 than if new entrants were to compete using UNE-P. This argument,
17 however, is completely contrary to sound business practices taught in
18 leading business schools and the practices of leading companies.
19 Specifically, the preferred method of entering any market is to seek out
20 ways to develop a presence without investing a huge amount of capital
21 that may be sunk or stranded in the event the market foray is
22 unsuccessful. Specifically, to the extent that low-sunk-cost entry methods
23 are available, entry becomes more attractive, while the prospect of large,

1 stranded, sunk costs are a significant deterrent to entry. A more complete
2 discussion of this point is contained in Section V of my testimony.

3

4 **Q. ARE THERE GENERAL POLICY LESSONS TO BE DRAWN FROM THE**
5 **COMPETITION-ENABLING MANDATE OF THE ACT?**

6 A. Yes. Moves to make the rates, terms or availability of UNEs less
7 attractive at this point are unlikely to create more competition but will,
8 rather, almost certainly – and perversely – spell the end of the
9 development of local exchange competition. Any attempt to create
10 additional investment in the local exchange arena by making the low sunk-
11 cost UNE-P option – including access to mass market circuit switching –
12 less available or less attractive will simply end the entry process. While
13 sound policymaking surely could tolerate a process of establishing a level-
14 playing field followed by a “sink or swim” mindset, a policy of eliminating
15 key elements of the UNE platform, such as local circuit switching, is
16 tantamount to strapping on leg weights to the prospective swimmers and
17 saying, “Jump in. If you survive you will be a strong swimmer.” The
18 rational choice by the prospective swimmers (new entrants) would simply
19 be not to “jump in”.

20

21 **Q. TURNING SPECIFICALLY TO THE ISSUE OF IMPAIRMENT, CAN YOU**
22 **PLEASE DEFINE THIS TERM AND ITS RELEVANCE?**

1 A. As noted earlier, the issue of impairment emanates from section 252(d)(2)
2 of the Act that states that "[in] determining what network elements should
3 be made available ...the Commission shall consider at a minimum,
4 whether – (A) access to such network elements as are proprietary in
5 nature is necessary; and (B) the failure to provide access to such network
6 elements would impair the ability of the telecommunications carrier
7 seeking access to provide the services that it seeks to offer." In its
8 interpretation of this statutory language, the FCC says, "A requesting
9 carrier is impaired when lack of access to an incumbent LEC network
10 element poses a barrier or barriers to entry, including operational and
11 economic barriers, that are likely to make entry into a market
12 uneconomic." (*TRO*, ¶ 7)

13
14 **Q. HAS THE FCC REACHED A DETERMINATION REGARDING**
15 **WHETHER CLECS ARE IMPAIRED?**

16 A. Yes. The FCC reached judgments regarding the issue of impairment at
17 the national level for a number of different unbundled network elements
18 (UNEs) in its *TRO*. In the specific case at hand here, the FCC found that
19 CLECs were impaired without the provision of "mass market switching."
20 Specifically, the FCC states that "We find, on a national basis, that
21 competing carriers are impaired without unbundled local circuit switching
22 when serving the mass market due to operational and economic barriers
23 associated with the incumbent LEC hot cut process." (*TRO*, ¶ 7)

1

2 **Q. IF THE FCC HAS ALREADY FOUND THAT IMPAIRMENT EXISTS,**
3 **WHY IS IT NECESSARY TO HAVE A STATE-LEVEL HEARING?**

4 A. In making its national-level finding of impairment, the Commission judged
5 that further, granular, analysis should be conducted at the state level to
6 corroborate or overturn the finding of impairment.

7

8 **Q. HOW, THEN, DOES ONE DETERMINE WHETHER THE ABSENCE OF**
9 **THE MASS MARKET SWITCHING WITHIN PENNSYLVANIA WOULD**
10 **CAUSE CLECs TO BE "IMPAIRED"?**

11 A. The process of determining whether impairment exists involves a
12 fact-specific and data-intensive inquiry into the issue of whether, absent
13 the provision of mass market switching (and, thus, UNE-P), new entry into
14 local exchange markets is retarded or impaired. The basic approach to
15 this exercise is, fortunately, guided by a well-established body of
16 economic thought on the subject of barriers to entry and barriers to
17 expansion. Specifically, where economic and operational barriers to entry
18 and expansion for new entrants in specific local exchange markets via
19 non-ILEC switching are formidable, then a finding of impairment is
20 warranted.

21

22 **Q. WHAT ARE THE ACCEPTED APPROACHES TO ASSESSING THE**
23 **HEIGHT OF BARRIERS TO ENTRY INTO A MARKET?**

1 A. There are two basic approaches to determining the presence of barriers to
2 entry. Specifically, the economic literature has identified a number of
3 underlying structural and behavioral determinants of both the presence
4 and height of barriers to entry into a market. These determinants include,
5 *inter alia*, consideration of the extent of sunk costs, economies of scale,
6 first-mover advantages and absolute cost advantages of incumbents in the
7 market. The second approach is to perform a detailed assessment of the
8 actual level of entry into a market. In certain circumstances, the level of
9 entry may be sufficiently high and sufficiently informative about
10 prospective entry that one may conclude that the magnitude of entry
11 barriers is low.

12

13 **Q. DOES THE TRO FOLLOW THIS ACCEPTED APPROACH TO**
14 **ASSESSING BARRIERS TO ENTRY?**

15 A. Yes. The TRO specifies a two-step process that encapsulates both
16 approaches to the assessment of the presence of barriers to entry.
17 Specifically, the general procedure for assessing whether impairment
18 exists is to conduct a full economic analysis of the presence and
19 magnitude of economic and operational barriers to entry that may impair
20 the ability of new entrants to enter local exchange markets. In order to
21 provide a short-cut procedure that is administratively less wieldy, the TRO
22 also contains a so-called "triggers test" wherein the Commission more
23 simply assesses the magnitude of existing competitors' entry. If the

1 magnitude of entry is sufficiently robust and unequivocal in the triggers
2 analysis, then the more detailed, complete assessment of the magnitude
3 of entry barriers can be avoided.

4

5 **Q. WHAT IS YOUR UNDERSTANDING OF THE ANALYSIS VERIZON HAS**
6 **PRESENTED IN THIS CASE?**

7 **A.** My understanding is that Verizon has presented an assessment only of
8 the "triggers" phase of the impairment issue. Accordingly, it is to that
9 issue that I know turn.

10

11 **IV. MARKET DEFINITION AND TRIGGER ANALYSIS**

12

13 **Q. TURNING THEN SPECIFICALLY TO THE TRIGGERS STAGE OF THE**
14 **IMPAIRMENT ANALYSIS, HOW SHOULD THE COMMISSION BEGIN?**

15 **A.** The *TRO* requires Commissions to define a set of relevant geographic
16 markets in which to evaluate impairment with respect to mass market
17 switching. Specifically, the *TRO* (at ¶¶ 498-505) specifies a set of
18 "triggers" that are to be used to make a *prima facie* finding of no
19 impairment for local circuit switching, and those triggers are to be applied
20 "... to each identifiable market" (¶ 495). These triggers rely on actual
21 observed entry into a market by CLECs who are employing their own
22 switches to supply local exchange service to mass-market customers, in
23 order to draw inferences regarding the ability of such firms to enter the
24 defined area in the absence of UNE-P.

1 Specifically, the TRO's self-provisioning trigger stipulates a finding
2 of no impairment "... when three or more unaffiliated competing carriers
3 each is serving mass market customers *in a particular market* with the use
4 of their own switches." (TRO, ¶501; emphasis added).⁸ Obviously,
5 because this trigger relies on a count of qualifying switch-based CLECs
6 located within a defined geographic area, the outcome of the test will be
7 highly dependent upon the size of the geographic markets selected. The
8 larger the markets, the more likely the trigger will be satisfied, *ceteris*
9 *paribus*. Consequently, the market definition exercise becomes a crucial
10 element of the impairment analysis.

11

12 **Q. DOES ECONOMICS PROVIDE ANY USEFUL GUIDANCE REGARDING**
13 **THE QUESTION OF GEOGRAPHIC MARKET DEFINITION?**

14 A. Yes. There is a considerable volume of literature in economics that has
15 developed on this issue.⁹ That literature has grown out of the crucial role
16 that market definition plays in the antitrust arena, particularly in
17 monopolization and merger cases. I believe that literature can help
18 regulators who are (for many, for the first time) struggling with this issue.

⁸ Another trigger which focuses upon the presence of two or more wholesalers of mass market switching that are unaffiliated with the ILEC is also specified at ¶¶ 504-505. Due to the general absence of such wholesalers in the market, this trigger is not expected to be operative.

⁹ For a survey of this literature, see David L. Kaserman and John W. Mayo, Government and Business: The Economics of Antitrust and Regulation, Harcourt Brace College Publishers, Fort Worth, 1995, pp. 111-115 and 145-148.

1 At the same time, however, market definition remains a relatively
2 unsettled area within economics. It is simply not a subject that is easily or
3 unambiguously resolved.¹⁰ As a result, while economics can contribute to
4 the formulation of reasonable answers in this case, it cannot provide any
5 simple formula or bright-line standard that can be readily applied.
6 Consequently, regulators will have some, perhaps considerable, latitude in
7 drawing these boundaries.

8 In addition, one must be cautious in adopting a methodology that
9 was developed for antitrust purposes in a different market and policy
10 environment. Specifically, the standard economic market definition criteria
11 were designed for use in unregulated markets for the express purpose of
12 assessing market power. Here, however, regulatory controls influence
13 observed outcomes; and, more important, the purpose of the market
14 definition exercise is to facilitate the application of the FCC's triggers in a
15 way that both makes sense economically and serves the pro-competitive
16 goals of the Act.

17
18 **Q. GIVEN THE ABOVE CAVEATS, HOW DO ECONOMISTS GENERALLY**
19 **APPROACH THE ISSUE OF GEOGRAPHIC MARKET DEFINITION?**

¹⁰ George J. Stigler, "The Economists and the Problem of Monopoly," American Economic Review, Vol. 72 (May 1982), p. 1, wrote:

My lament is that this battle on market definitions ... has received virtually no attention from us economists. Except for a casual flirtation with cross elasticities of demand and supply, the determination of markets has remained an undeveloped area of economic research at either the theoretical or empirical level.

1 A. The standard approach used in antitrust economics considers the
2 questions of geographic substitutability on both the demand and supply
3 sides of the market.¹¹ Specifically, one begins by defining the smallest
4 area that might be considered and asking the hypothetical question, "If all
5 the producers located in this area were to increase price by a significant
6 amount and maintain that higher price for a non-transitory period of time,
7 would that price increase prove to be unprofitable as a result of: (1)
8 consumers going outside the defined area to purchase the product
9 (demand-side geographic substitutability); or (2) producers outside the
10 area shipping the product to (or moving into) the defined area (supply-side
11 geographic substitutability)?¹² If, for either reason, the answer is yes (*i.e.*,
12 the price increase would be unprofitable), then the market boundaries
13 must be expanded to include the other areas to which demand is shifted
14 or from which supply flows.

15 One then repeats the exercise for this larger market. This process
16 continues until the hypothetical price increase would, in fact, be profitable -
17 - *i.e.*, neither demand-side nor supply-side substitutability is sufficiently
18 large to render it unprofitable. At that point, you have defined the relevant
19 geographic boundaries -- the smallest area that meets the substitutability
20 criteria.

¹¹ This approach is described in greater detail in the U.S. Department of Justice's and the Federal Trade Commission's Horizontal Merger Guidelines, Issued April 2, 1992, Revised April 8, 1997.

¹² Obviously, for local exchange telephone service, demand-side geographic substitutability is zero. That is, the individual mass-market customer cannot, as a practical matter, seek out a lower price by moving to a different location. Therefore, the question of geographic market definition for this product will turn solely on a consideration of supply-side substitutability.

1

2 **Q. IN YOUR OPINION, HOW DOES THE TRADITIONAL MARKET**
3 **DEFINITION PROCESS NEED TO BE ADAPTED TO APPLY TO THE**
4 **TRIGGER ANALYSIS CONTAINED IN THE TRO?**

5 A. I believe the above set of substitutability criteria provide a useful starting
6 point for the analysis. Application of these criteria, however, is unlikely to
7 lead to a specific, unambiguous conclusion regarding the appropriate
8 geographic market definition. Specifically, the supply-side substitutability
9 criterion appears capable of supporting a number of alternative market
10 definitions ranging in size from as small as individual Verizon wire centers
11 to as large as entire LATAs.¹³

12 As a result, the state regulatory commissions have considerable
13 discretion in defining these markets under those criteria. In exercising that
14 discretion, however, it is *extremely important* to understand that the
15 fundamental economic purpose of the trigger analysis to ensure that the
16 resulting policy action remains consistent not only with the TRO, but also
17 with the pro-competitive objectives of the Act.

18

19 **Q. WHAT IS THE FUNDAMENTAL ECONOMIC PURPOSE OF THE FCC'S**
20 **SELF-PROVISIONING TRIGGER?**

¹³ Due to economies of scale associated with local exchange switches, the relevant geographic market is likely to be broader than single wire centers. And the TRO (¶495) specifies that they must be smaller than a state. Obviously, a number of potentially sensible geographic market definitions exist between these two extremes.

1 A. That trigger is intended to provide a logical short-cut that allows regulators
2 to reach valid conclusions regarding the absence of significant barriers to
3 entry into the defined market in the absence of UNE-P. It does this by
4 using actual observed entry to signal the absence of any substantial entry
5 barriers in the affected market.¹⁴ The economic role of the trigger test,
6 then, is to reduce unnecessary analysis when evidence of actual entry is
7 clearly and unambiguously sufficient to demonstrate that further detailed
8 analysis of local entry conditions could not reasonably result in a finding of
9 impairment.

10 When properly applied, this trigger allows a commission to reach
11 precisely the same conclusion it would have reached if it had conducted a
12 more detailed analysis of the entry conditions in that market. The trigger
13 aspect of the impairment analysis and the more detailed case study
14 analysis are *not* two different impairment tests. Rather, they are two
15 different (potentially valid) methods of determining whether CLECs would
16 be impaired in their ability to provide service in the relevant market without
17 access to unbundled local circuit switching.

18 If the trigger analysis is to achieve this purpose -- to provide an
19 accurate signal of the absence of substantial entry barriers -- it is
20 imperative that it be applied in a way that is logically consistent with the
21 more intensive, full-blown impairment analysis. In particular, regulators

¹⁴ This approach -- using observed entry to draw an inference of the height of barriers to entry -- has been employed in the literature on this subject. See, e.g., Kaserman and Mayo, *op. cit.*, pp. 110-111; and Mark L. Burton, David L. Kaserman, and John W. Mayo, "Modeling Entry and Barriers to Entry: A Test of Alternative Specifications," Antitrust Bulletin, Vol. 44 (Summer 1999), pp. 387-420.

1 need to be certain that, where the trigger test is satisfied (*i.e.*, the
2 inference of no impairment is drawn), removal of the UNE-P option will not
3 lead to any significant diminution in the evolution of competition in the
4 affected market. Only then can they be assured that consumers will not
5 be adversely affected by implementation of the trigger approach.

6
7 **Q. HOW CAN REGULATORS BE CERTAIN THAT APPLICATION OF THE**
8 **FCC'S SELF-PROVISIONING TRIGGER WILL NOT HAVE AN**
9 **ADVERSE IMPACT ON COMPETITION?**

10 A. If application of this trigger is to serve its intended effect of accurately
11 indicating the absence of any significant entry barriers, it is necessary for
12 regulators to: (1) adopt an economically meaningful geographic market
13 definition; and (2) impose an explicit set of standards on those CLECs that
14 are qualified as triggering firms.

15 The first requirement is necessary to ensure that the inference of
16 no impairment is valid across the entire geographic area to which that
17 inference applies. For example, if the defined area actually contains two
18 separate geographic markets, then observed entry into market A (say, an
19 urban area) may mistakenly be used to conclude that there are no barriers
20 to entry into market B (say, a rural area). In that event, removal of the
21 UNE-P option in both markets will unambiguously harm competition in the
22 second market where little or no switch-based entry has occurred. Like
23 water in a bowl, competition tends to achieve a uniform level within a

1 market; but it can vary considerably across different markets. Therefore,
2 the trigger analysis must be applied to well-defined individual markets
3 separately.

4 Given an appropriate geographic market definition, the second
5 requirement is essential to ensure that the entry we are observing (and
6 counting toward satisfaction of the trigger) is sufficient to support the
7 inference being drawn from it. For example, suppose we define the
8 geographic market relatively broadly to encompass the entire LATA. Then
9 suppose we find that three CLECs are currently providing service to some
10 mass-market customers in that LATA with their own switches. Are we
11 then justified in concluding that there are no substantial barriers to entry
12 into that LATA if UNE-P were withdrawn? Obviously, the answer depends
13 on the characteristics of the observed entrants. Specifically, if all three
14 firms are providing non-UNE-P service throughout the entire LATA to all
15 types of mass market customers (e.g., business and residential, urban
16 and rural, and so on), and doing so via methods likely to be used by
17 prospective entrants into the market, then the inference of no impairment
18 would appear to be valid. If, on the other hand, these CLECs are only
19 serving a few customers in particular market niches (e.g., business
20 customers in urban areas), then that inference is not supported. Similarly,
21 if the extant CLECs are providing services using means that are unlikely to
22 be available to prospective new entrants, then the "information value" of
23 the observation of incumbent CLECs' presence for an inference of low

1 barriers to entry is severely degraded. Therefore, if the self-provisioning
2 trigger analysis is to serve its intended objective, a threshold of
3 quantitative substantiality must be applied to qualify CLECs as triggering
4 firms.

5

6 **Q. DOES THE TRO RECOGNIZE THE NEED FOR THIS SECOND**
7 **REQUIREMENT?**

8 A. Yes. The need to examine explicitly the characteristics of the CLECs that
9 are used as triggering firms is discussed at ¶ 495 of the TRO. Here, the
10 FCC instructs the states to:

11 "... take into consideration the locations of customers
12 actually being served (if any) by competitors, the
13 variation in factors affecting competitors' ability to serve
14 each group of customers, and competitors' ability to
15 target and serve specific markets economically and
16 efficiently using currently available technologies."

17 (Footnotes omitted).

18

19 In addition, ¶ 496 indicates that states are to consider:

20

21 "... how UNE loop rates vary across the state, how
22 retail rates vary geographically, how the number of high-
23 revenue customers varies geographically, how the cost
24 of serving customers varies according to the size of the
25 wire center and the location of the wire center, and
26 variations in the capabilities of wire centers to provide
27 adequate collocation space and handle large numbers of
28 hot cuts."

29 (Footnotes omitted).

30

31 While the above characteristics are described as factors that may

32 be considered in defining the relevant geographic markets, the two issues

1 -- market definition and qualifying factors -- are very much related.¹⁵
2 Indeed, there is a trade-off between the scope of the geographic market
3 definition employed and the stringency of the requirements used to qualify
4 non-UNE-P CLECs as triggering firms.¹⁶ Specifically, the broader the
5 geographic market definition, the more stringent the qualifying
6 requirements needed.

7
8 **Q. CAN YOU EXPLAIN THIS TRADE-OFF?**

9 A. Yes. The reason for this trade-off is straightforward. Because the FCC
10 has adopted a fixed number of switch-based CLECs (three) as the self-
11 provisioning trigger, the broader the geographic market that is chosen, the
12 more likely we are to be able to identify that number of CLECs using their
13 own switches within the defined region. That is, the broader the market,
14 the more likely the trigger is to be satisfied, at least facially.

15 Such a *pro forma* count, however, cannot ensure that the inference
16 of no substantial entry barriers for non-UNE-P competitors is supported.
17 For that inference to be valid, the CLECs that are counted toward
18 satisfaction of the trigger must be examined more closely to ensure that
19 their observed entry is of a sufficient magnitude and scope to support it.

¹⁵ That relationship is recognized in the *TRO* at footnote 1537, which states:
"... if competitors with their own switches are only serving certain
areas, the state commission should consider establishing those
areas to constitute separate markets."

¹⁶ Interestingly, there is a similar sort of trade-off in antitrust economics between the scope of the market definition and the underlying structural determinants of market power. See Kaserman and Mayo, *op. cit.*, pp. 115-116. Also, see William M. Landes and Richard A. Posner, "Market Power in Antitrust Cases," *Harvard Law Review*, Vol. 94 (March 1981), pp. 937-996.

1 And, clearly, the broader the geographic market, the more stringent these
2 qualifying factors must be to ensure the validity of that inference.

3 A simple example may help to explain. Suppose the commission
4 adopts a very narrow geographic market definition -- individual wire
5 centers. In this case, where three or more CLECs are found to be
6 supplying service to mass-market customers with their own switches
7 within the defined market (i.e., a particular wire center), very little
8 additional information may be needed to conclude that entry barriers are
9 sufficiently low to justify a finding of no impairment. Suppose, instead, that
10 the commission chooses a broader market definition, say LATAs, as the
11 relevant geographic markets. In this case, the mere presence of three
12 switch-based CLECs that are serving some mass-market customers is not
13 sufficient to support the conclusion of insignificant entry barriers
14 throughout the defined area. Additional factors, such as the types of
15 customers served, their locations within the LATA, the availability of
16 collocation space, and so on, must be evaluated to determine whether
17 these firms should qualify toward meeting the trigger.

18 Again, the crucial principle is that the short-cut provided by the
19 trigger analysis yields an accurate indicator of whether the elimination of
20 UNE-P will retard entry and, thereby, harm competition within the defined
21 market. And that principle cannot be ensured by a simple *pro forma* count
22 of switch-based CLECs. Rather, a standard of quantitative substantiality

1 must be applied. A short-cut is useful only if it gets you where you need to
2 the correct, desired location.

3

4 **Q. ARE THERE ANY OTHER POTENTIAL PITFALLS INVOLVED IN**
5 **APPLICATION OF THE SELF-PROVISIONING TRIGGER?**

6 A. Yes. There is a fundamental logical problem that potentially can lead to a
7 perverse policy conclusion being drawn from a simple minded, unqualified
8 application of this trigger. I refer to this problem as the "fallacy of the
9 triggers." It stems from the potential logical error involved in drawing
10 inferences about what the market will look like under a new policy
11 environment from observations generated by the current policy
12 environment.

13 Specifically, the number of switch-based CLECs in the market
14 serving mass market customers today is, in all likelihood, influenced by
15 the availability of the UNE-P option. If that option were removed, then, it is
16 likely that the number of switch-based CLECs would change. The
17 important question is: in which direction? The economic answer depends
18 on whether UNE-L and UNE-P are gross substitutes or gross
19 complements. If they are substitutes, then the elimination of UNE-P will
20 lead to the increased use of UNE-L (i.e., the CLECs will install more
21 switches). If they are complements, however, elimination of the UNE-P
22 strategy will have the opposite effect -- i.e., some switch-based CLECs will
23 exit the market, and the overall level of competition will decline. And,

1 equally important, looking ahead, new entrants that would be economically
2 viable under a policy of UNE-P and UNE-L availability will forego entry
3 where the UNE-P option is eliminated.

4 A consideration of how some CLECs have employed these two
5 entry alternatives strongly suggests that they are likely to be gross
6 complements. Specifically, a common CLEC entry strategy appears to
7 have been to install switches where it is efficient to do so – in relatively
8 dense urban areas to serve relatively high revenue enterprise customers.
9 The UNE-P option, then, is used to extend service to those broader areas
10 and customers for which switch deployment is not efficient – in rural areas
11 and for lower-revenue residential customers.

12 That extension of service via UNE-P serves two purposes. First, it
13 expands competition to geographic areas and customer groups that would
14 otherwise remain subject to monopoly supply. And, second, it provides
15 incremental net revenues that help to support the switch-based services
16 provided to the urban and enterprise customers.¹⁷ Thus, the two entry
17 options are complements -- they tend to work hand-in-hand to justify the
18 overall entry strategy of at least some of the CLECs we currently observe
19 in the market.¹⁸

¹⁷ This scenario does not imply a cross-subsidy from or to either group. Rather, the contributions earned from both groups of customers help to cover the large fixed costs associated with switch deployment.

¹⁸ This conclusion is supported by the empirical literature dealing with the impact of UNEs on investment in this industry. I discuss that literature later in this testimony.

1 If that is the case, then removal of the UNE-P option will diminish
2 competition from *both* sources. The observation that competition is
3 surviving under the current policy is used to justify a change in policy that
4 destroys it. It is like taking a patient off his hypertension medication
5 because his observed blood pressure is normal.

6
7 **Q. WHAT IS YOUR UNDERSTANDING OF THE GEOGRAPHIC MARKET**
8 **DEFINIITION VERIZON PROPOSES?**

9 A. My understanding is that Verizon has proposed a market definition that
10 consists of Metropolitan Statistical Areas (MSAs).

11
12 **Q. FOR A MARKET DEFINITION THAT IS THIS GEOGRAPHICALLY**
13 **BROAD, ARE THERE ANY PRACTICAL LIMITATIONS THAT ARE**
14 **NECESSARY TO ENSURE THAT CLECs ARE NOT IMPROPERLY**
15 **INCLUDED AS TRIGGERING FIRMS?**

16 A. Yes. As I noted above, a threshold test of quantitative substantiality must
17 be imposed to appropriately apply a triggers analysis. Consequently, there
18 are a number of circumstances in which a CLEC may be "identified," but
19 should not be included toward satisfying the triggers. These include, at a
20 minimum, the following:

21 (1) CLECs that do not offer service via non-ILEC switching over a
22 significant share of the geographic area analyzed. If CLECs are currently
23 operating in only a geographically-localized subset of areas (e.g., a few

1 wire centers), it is reasonable to investigate whether they may be able
2 economically to expand to serve customers throughout the market area;
3 that investigation, however, would require the more complete assessment
4 of barriers to entry and expansion facing new entrants that constitutes the
5 FCC's "potential deployment" test. If any presumption is to be made at the
6 stage of applying the trigger test, without further analysis, the natural
7 presumption is that there are economic barriers to further expansion.

8 (2) CLECs that offer potential "intermodal" competition. That is,
9 CLECs using non-wireline telephone local networks. These may include
10 cable television providers that sometimes also offer cable telephony
11 services; CLECs offering broadband DSL that may also offer voice-over-
12 DSL; wireless ISPs (WISPs) that may offer bundled telephone services; or
13 others.¹⁹ The very fact that these are referred to as "intermodal"
14 competitors highlights the need to carefully consider the extent to which
15 they offer effective substitutes for Verizon's basic telephone service and
16 the likelihood that such intermodal business models will occasion
17 additional CLEC entry. In any case, the latter analyses go beyond what is
18 considered as part of a trigger test.

19 (3) CLECs that are serving only large enterprise customers from
20 the defined market using non-ILEC switching. A CLEC may be serving
21 large enterprise customers in a defined market and either not be serving
22 mass-market customers at all, or only serving mass-market customers via

¹⁹ Depending on the locale, potential sources of inter-modal competition may include utilities (with HFC plant), wireless ISPs, or others.

1 UNE-P. In either case, assessing whether it is economically viable for
2 such a CLEC to serve mass-market customers goes beyond the trigger
3 analysis.

4 (4) CLECs that serve only a restricted niche of mass-market
5 customers in the defined market using non-ILEC switching. This includes
6 a CLEC serving a very limited sub-class of customers (e.g., only college
7 students living in dormitories or those located in a subset of wire centers in
8 the geographic area) or with very limited capacity; a CLEC that is only
9 experimenting with UNE-L and cannot yet be counted as an "actual"
10 competitor; and, a CLEC that is principally an enterprise service provider
11 but may provide some residential service as part of its enterprise offer
12 (e.g., to connect the homes of senior management to an enterprise
13 customer's network). To determine whether a CLEC ought to be
14 excluded, it would be useful to have a threshold for the number of lines
15 and the share of CLEC lines that must be served via non-ILEC switching
16 to apply this exclusion principle.²⁰

17 (5) CLECs for which their appropriate classification is unclear.²¹ If
18 the data presented does not allow for an adequate classification of the

²⁰ E.g., "Any CLEC serving less than X lines or with less than Y% of the total mass-market end-user lines served in the relevant geographic area or impairment zone" should be excluded. "X" is needed to exclude CLECs that are only testing service and there is a presumption that they may find full entry uneconomic. "Y" is needed to exclude the case of enterprise-serving CLECs with large number of lines for which mass-market service is purely incidental.

²¹ This includes CLECs for which it is not possible to verify that they are currently offering service. A CLEC that offered service in the past but is now retrenching, or adding only minimal numbers of customers, or has been merged into another CLEC does not count because this very fact suggests that their business plan was not economically viable. Additionally, if Verizon's trigger case is premised on insufficiently granular data, then it needs

1 CLEC; then it should not be counted towards the trigger. This is wholly
2 appropriate, since it means that additional information is needed to assess
3 the economics of local competition. Failing to satisfy the trigger will result
4 in further investigation and data collection to clarify these ambiguities.

5 (6) A mixed UNE-L/UNE-P firm in the market should not count as a
6 triggering firm unless it is affirmatively determined that that firm
7 could/would provide service to its full customer base using UNE-L-only.
8 One could develop a proxy for this factor by examining the ratio of UNE-P
9 to UNE-L mass-market customers served by an existing firm. Specifically,
10 where the ratio of UNE-P is very high, then the presumption must be that,
11 without the availability of UNE-P, entry would be impaired.) The reason
12 for this limitation is that the purpose of the triggers is to use extant market
13 data to glean information about the consequences of removing the UNE-P
14 option. If, however, we only observe mass-market firms using a
15 combination of UNE-P and UNE-L, it is highly suggestive, if not totally
16 dispositive, that the elimination of UNE-P would, in fact impair entry.

17

18 **Q. CAN YOU EXPLAIN FURTHER WHY CLECs THAT ARE SERVING**
19 **ONLY A RESTRICTED NICHE OF MASS-MARKET CUSTOMERS**
20 **OUGHT TO BE EXCLUDED?**

21 A. As already explained, the role of the trigger analysis is to provide a short-
22 cut mechanism to determine whether CLEC entry would be impaired
23 without access to UNE-P. The economic logic of the triggers approach

to be rejected. The burden of proof that actual competition already exists is appropriately placed, in this case, on Verizon.

1 rests on the ability to reliably infer from counts of actual CLEC activity that
2 there are no substantial barriers to entry that would impair an efficient
3 CLEC from entering if UNE-P were not available. There are many
4 reasons why a firm might be providing mass-market services to a small
5 number of customers at a loss that is not associated only with the early
6 stages of entry, but which explain why that firm and others using a similar
7 business model would not find it profitable to expand service substantially.
8 There are also situations in which a firm might be able profitably to serve a
9 niche, e.g., a small sub-set or market segment that is uniquely situated,
10 but not to serve the mass market generally. For example, the presence of
11 a CLEC that provides service to business customers within the mass
12 market, but which does not provide service to residential customers,
13 cannot be accurately denominated as a triggering firm for the general
14 mass market, which the FCC has defined as including **both** residential
15 and business customers.

16 If any of the above conditions apply, then the inference that there
17 are "no barriers to entry" does not hold, and the justification for application
18 of the trigger to that market fails. While it is possible that the firm is
19 serving only a small number of mass-market customers because it is in
20 the early stages of entry, making this determination means conducting
21 additional analysis beyond what the trigger test allows. If the impairment
22 analysis cannot be completed without making determinations regarding
23 whether CLECs currently serving only a restricted niche of mass-market

1 customers could profitably expand their service to the entire range of
2 residential and small business customers in the mass market, then we
3 must move to the more comprehensive, full-blown assessment of the
4 existence and magnitude of economic and operational barriers to entry
5 facing prospective entrants, viz. the "potential deployment" test. The
6 triggers are, by their very nature, restricted to a determination of whether
7 actual market entry behavior to date is adequate to demonstrate that no
8 barriers to entry prevent CLECs from serving the mass market in general
9 without access to unbundled switching and, thus, UNE-P.

10

11 **Q. CAN YOU DESCRIBE SITUATIONS WHERE A CLEC MIGHT BE**
12 **SERVING A SMALL NUMBER OF MASS-MARKET LINES BUT WHERE**
13 **FURTHER EXPANSION REMAINS CONSTRAINED BY ECONOMIC OR**
14 **OPERATIONAL BARRIERS?**

15 **A.** Yes. A firm may be testing the market by offering a few lines. Firms often
16 test-market to learn about entry economics before undertaking
17 investments that may be largely sunk, once entry has occurred. If the firm
18 is in the "testing" stage, it cannot properly be regarded as having "entered"
19 the market.

20 Additionally, a firm may be induced to provide a feature or
21 complementary good at a loss in order to capture an important sale. For
22 example, a CLEC might provide service to the homes of senior executives
23 of a major enterprise account. In this case, the DS-0 lines served are
24 mischaracterized as "mass-market" lines when they actually should be
25 attributed to the CLEC's enterprise business. Again, the fact that these

1 lines might be provided at a loss suggests that there are entry barriers to
2 serving the mass market– the exact opposite conclusion from what would
3 be supported if a CLEC offering such lines were included towards meeting
4 the trigger.

5 Yet another situation arises wherever an extant CLEC has a very
6 limited business plan focusing on a limited sub-class of customers. The
7 observation that there is a niche strategy that may have a role in the
8 market does not tell us about the economics of mass-market entry
9 generally. Thus, if the CLEC is focused narrowly on some sub-class of
10 customers, it is necessary to determine whether it is economic for such a
11 CLEC to expand service beyond its narrow customer niche. This requires,
12 then, that the firm be excluded from the triggers analysis, and the issue of
13 that firm's potential for expansion considered under a "potential
14 deployment" case.

15 Finally, for CLECs in the market (and prospectively in the market), if
16 there is inadequate collocation space or some other capacity constraint
17 that restricts further facilities-based entry, then a finding of impairment is
18 warranted.

19

20 **Q. CAN YOU EXPLAIN IN MORE DETAIL WHY INTERMODAL CARRIERS**
21 **ought to be excluded from the trigger test?**

22 **A.** Yes. Remember that the goal of the impairment analysis – here triggers –
23 is to determine whether entry would be retarded in the absence of access
24 to any particular UNE. Thus, state commissions must assess claims by

1 prospective entrants that without access to a UNE, their entry would be
2 retarded or impaired. A properly developed triggers analysis would
3 examine the credibility of such claims by determining whether there are
4 actual entrants – *with considerably similar characteristics to the*
5 *prospective entrants* – that have demonstrated that prevailing entry
6 barriers can be overcome. In such a case, the policymaker can be
7 confident that other prospective entrants (with similar characteristics to the
8 firms that have already established a market presence) can also
9 overcome barriers to entry without relying on the availability of unbundled
10 mass-market switching. In the case of a cable television provider,
11 however, its ability to offer local telephony is **completely** predicated on
12 the fact that it has deployed a network for the provision of cable TV
13 service. To my knowledge, without this cable backbone, no cable
14 company has entered **any** local market to provide telephone service. In
15 such a case, the presence of a cable telephony provider cannot be used
16 to make any inference about the ability of a prospective entrant - other
17 than another cable television provider with an appropriately upgraded
18 digital network within the relevant geographic market – to enter the
19 market. The very clear implication is that cable telephony firms must NOT
20 be counted as “triggering” firms.

21 Indeed, the FCC has recognized this point when it observes (*TRO*,
22 ¶ 98) that consideration of intermodal carriers is problematic because it is
23 generally not reasonable to assume that other CLECs could use the same

1 approach to provisioning local telephone service. Specifically, the FCC
2 notes that, because cable telephony and cable modem service have
3 developed by overlaying new services on an extant network, often under
4 governmental franchise authority (neither of which are readily available to
5 prospective entrants), these firms do not represent clear signals regarding
6 the absence of economic and operational barriers to entry into the general
7 mass market.

8
9 **Q. YOU SEEM TO BE SAYING THAT THERE ARE PROBLEMS WITH**
10 **RELYING ON EVIDENCE OF CURRENT COMPETITION TO INFER**
11 **WHETHER ENTRY BARRIERS ARE SUBSTANTIAL?**

12 **A.** Yes. As I indicated earlier, it is possible to use a very carefully applied
13 approach of observing entry, in certain circumstances, to make inferences
14 about the absence of entry barriers. The purpose of the triggers analysis
15 is to see *if* the market entry data is sufficiently robust and sufficiently clear
16 that this short-cut method of assessing barriers to entry prospectively can
17 confidently be relied upon to yield the same result as a more complete
18 "potential deployment" analysis. It would, however, be a grave injustice to
19 this methodology and, more important, to the pro-competitive purpose of
20 the Act to apply it glibly by simply counting "one, two, three". One cannot
21 – or at least should not – force an answer at the triggers stage. Moreover,
22 the fact that a CLEC should not be counted toward the triggers unless it is
23 a confident predictor of future entry does not end the impairment analysis;
24 rather, it merely protects the regulatory process from being aborted
25 prematurely.

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Q. DO YOU HAVE ANY ADDITIONAL CAVEATS REGARDING THE APPLICATION OF A METHOD THAT LOOKS AT EXTANT FIRMS TO MAKE INFERENCES ABOUT THE ABSENCE OF ENTRY BARRIERS?

A. Yes. The goal of the impairment analysis is to learn about the economics of additional or future CLEC entry. CLECs that are competing in the market today made their entry decisions in the past. If conditions have changed since they made those entry decisions, then reliance on existing competitors may be a poor indicator of the prospects for new entry in the absence of unbundled UNEs.

In this regard, unfortunately, conditions have changed substantially, and largely for the worse. The economic/industry environment in which many of the surviving CLECs made their capacity investments and entry decisions was fundamentally different than those which pertain today. CLECs invested in facilities with the expectation of much more rapid demand growth than now seems likely. Moreover, the high rate of bankruptcy among CLECs in recent years testifies to the extent to which CLECs may have under-estimated the challenges of competing in local telephone markets against an entrenched monopolist, in the face of tightening capital markets and technical and demand uncertainty. Even the largest CLECs that continue to operate in the mass market are pursuing different business models than they originally used to justify entry.

1 Furthermore, the actual competition we observe was predicated on
2 the assumption that UNEs would remain available and that UNE-P was a
3 viable option for competing. Until the *TRO*, a CLEC's choice of whether to
4 enter via facilities or via UNEs, and which class of customers to serve
5 using which type of facility, were not used to determine ILEC obligations to
6 provide UNEs. Many of the CLECs that may currently be using their own
7 facilities to serve some mass market customers have relied on UNEs in
8 the past or continue to use UNEs to serve customers that cannot
9 economically be served using the CLEC's facilities. The success of these
10 CLECs provides a demonstration of the value of UNE-P competition. The
11 trigger test, unless applied pursuant to the criteria I have explained here,
12 would inappropriately count such a CLEC as evidence for why UNEs are
13 not needed, instead of, more appropriately, as a poster-child for why
14 UNEs are needed.

15 Finally, while various regulatory agencies at both the federal and
16 state level have spoken of the need for providing a clear and stable
17 horizon for prospective entrants, the degree of regulatory uncertainty
18 facing prospective entrants seems to be growing. Although prospective
19 entrants have heretofore been able to count on the availability of
20 unbundled network elements to facilitate their entry, this proceeding
21 creates the prospect that these UNEs will be, in part or whole, withdrawn.
22 Similarly, the seemingly interminable debates about the appropriate level

1 of the pricing of UNEs create additional regulatory uncertainty that serves
2 to deter entry.

3

4 **V. THE IMPACT OF UNEs ON INVESTMENT**

5

6

7 **Q. AN ISSUE THAT FREQUENTLY ARISES IN DISCUSSIONS ABOUT**
8 **THE POLICY OF MAKING UNEs AVAILABLE TO ENTRANTS AT**
9 **TELRIC PRICES INVOLVES THE LIKELY IMPACT OF THAT POLICY**
10 **ON INVESTMENT IN LOCAL EXCHANGE NETWORKS. ARE YOU**
11 **AWARE OF THE CONFLICTING ARGUMENTS REGARDING THIS**
12 **ISSUE?**

13 **A.** Yes. In a nutshell, the ILECs have argued that the current policy requiring
14 them to supply UNEs to the new entrants into local exchange markets at
15 TELRIC prices discourages investment in network facilities by both parties
16 – the ILECs and the CLECs. The former firms' incentive to invest is
17 alleged to be dampened by the low (they claim negative) returns created
18 by TELRIC prices. And the latter firms' incentive to invest is also alleged
19 to be dampened by their ability to lease these inputs at the allegedly
20 below-cost prices. As a result, the ILECs claim that this policy
21 discourages both parties from making the investments needed, both to
22 maintain and modernize the existing network infrastructure and to bring
23 more meaningful facilities-based competition to the market.

24 The CLECs, on the other hand, have argued that the continued
25 provision of UNEs at TELRIC prices is: (1) necessary to facilitate the

1 efficient emergence of competition in local exchange markets; and
2 (2) unlikely to dampen the investment incentives of the ILECs, and
3 actually an enhancement of the CLECs' investment incentives. The
4 former argument is based on the provision of entry mechanisms that allow
5 the CLECs to benefit from the significant economies of scale and scope
6 present in the ILECs' installed networks. And the latter argument relies
7 upon: (1) the very definition of the TELRIC concept; (2) the investment
8 incentives provided the ILECs under the *TRO*; and (3) the economic role
9 that successful UNE-based entry plays in ameliorating the substantial
10 entry-detering sunk costs of local exchange facilities investment. As a
11 result, the CLECs argue that the continued provision of UNEs at TELRIC
12 prices does not reduce, but actually enhances, overall investment
13 incentives, while promoting the growth of efficient competition.
14

15 **Q. DO YOU HAVE AN OPINION ABOUT WHICH SIDE OF THIS DEBATE**
16 **IS CORRECT?**

17 A. Yes. In my opinion, the CLECs' argument is correct. It is founded on both
18 sound economics and the conditions that appear to exist in this industry.
19 The ILECs' position, on the other hand, depends on a set of assumptions
20 regarding both TELRIC pricing and the *TRO* that are in conflict with both
21 economic theory and the conditions present here.

22 Ultimately, however, the impact of UNEs on overall network
23 investment is an empirical question because, given the underlying

1 assumptions, neither of these arguments is logically invalid.²² Therefore,
2 the issue cannot be resolved on theoretical grounds alone. Turning, then,
3 to the empirical evidence, it appears that the bulk of the research reported
4 to date tends to confirm the CLECs' argument while undercutting the
5 ILECs' claims. Thus, I believe that a thorough and objective analysis of
6 this issue supports the position that a public policy requiring the ILECs to
7 supply UNEs at TELRIC prices promotes *both* investment and
8 competition.

9
10 **Q. CAN YOU EXPLAIN IN MORE DETAIL THE BASES FOR YOUR**
11 **OPINION?**

12 A. Yes. My opinion is based on: (1) an assumption about how TELRIC
13 prices have been implemented; (2) straightforward microeconomic theory;
14 (3) the explicit provisions of the *TRO*; and (4) a survey of the empirical
15 evidence regarding the relationship between UNE availability and pricing
16 and observed network investment. Because this debate involves
17 investment by both the CLECs and the ILECs, it is convenient to discuss
18 the economic incentives and empirical evidence for each group
19 separately.

20 Before proceeding to that discussion, however, it is important to
21 point out that society in general, and consumers in particular, do not
22 benefit equally from investments undertaken by these two sets of

²² The primary assumption that drives these conflicting arguments is whether the TELRIC prices set by regulatory commissions are above or below the true long-run incremental costs of supplying the UNES.

1 producers. Specifically, CLEC investment tends to enhance competition,
2 while ILEC investment tends to prolong monopoly (and, therefore,
3 regulation).²³ Because the fundamental policy goal of the Act is to
4 promote competition and reduce regulation in local exchange markets,
5 CLEC investment tends to be crucial to the achievement of that goal. If
6 we are ever going to achieve effective competition and successful
7 deregulation in these markets, we simply must have entry.²⁴ Any policy
8 actions that retard entry are, therefore, in direct conflict with the Act's
9 goals.

10

11 **Q. TURNING FIRST TO THE CLECs, HOW DO THE AVAILABILITY AND**
12 **PRICING OF UNES AFFECT NETWORK INVESTMENT INCENTIVES?**

13 A. It is widely recognized that one of the primary obstacles to facilities-based
14 entry into local exchange markets is the large amount of sunk costs
15 associated with network investment. Given these sunk costs, new firms
16 are unlikely to enter these markets if they are forced to bear these costs

²³ This is not to say that ILEC investment is socially undesirable but, rather, that CLEC investment is relatively more desirable, *ceteris paribus*.

²⁴ T. Randolph Beard, David L. Kaserman, and John W. Mayo, "The Role of Resale Entry in Promoting Local Exchange Competition," Telecommunications Policy, Vol. 22 (1998), p. 315, write that:

"Successful transformation of a market from monopoly to competition obviously requires the entry of new firms. Without entry, the interfirm rivalry that motivates firms to reduce prices, lower costs, and introduce new and innovative products does not arise. Rivalry does not exist without rivals, and rivals do not emerge without entry. Thus, where public policy seeks to promote competition, it must first seek to facilitate entry."

(Footnote omitted.)

1 initially (*i.e.*, prior to entry). In this environment, access to UNEs at
2 TELRIC prices becomes a strong entry-facilitating device. As my co-
3 authors and I have explained elsewhere:

4 "... sunk costs constitute a barrier to entry only to the
5 extent that exit looms as a potential consequence of
6 such entry. That is, the potential losses associated with
7 sunk costs prevent new firms from entering a market
8 only to the extent that these firms contemplate exit as a
9 possible outcome. Where firms can obtain buyer
10 precommitments to purchase their services through
11 resale entry, the likelihood of exit is reduced and, as a
12 consequence, the entry-retarding effect of sunk costs is
13 attenuated. In this way, a realistic wholesale discount
14 (and relatively low prices for unbundled network
15 elements) will actually foster a *greater* amount of
16 facilities-based entry by counteracting the sunk costs
17 associated with such entry."²⁵
18

19 In other words, the ability of an entrant to gain access to a market
20 and develop a customer base through use of the incumbent's existing
21 network facilities creates a pathway around the entry-detering effects of
22 substantial sunk costs. As a result, the general availability of relatively
23 low-priced UNEs (and, in particular, the UNE-P option) is crucial to
24 providing a market environment that is conducive to network investment
25 by the CLECs.

26 It is tempting for regulators to assume that, if access to unbundled
27 local exchange switching is denied, the CLECs will then purchase and
28 install their own switches. These firms, however, face no obligation-to-
29 serve constraints. They are unregulated, private companies that are in
30 business to earn a profit. Thus, if removal of the UNE-P option renders

²⁵ *Ibid*, p. 319.

1 the provision of local exchange services unprofitable (in the economic
2 sense), they will simply exit those markets.²⁶ The hoped-for increase in
3 investment then will not materialize. Indeed, the opposite effect will occur
4 as firms leave the industry. Thus, in my opinion, removal of the UNE-P
5 entry alternative would reduce, rather than increase, CLEC investment.

6
7 **Q. TURNING NEXT TO THE ILECs, HOW DOES THE OBLIGATION TO**
8 **SUPPLY UNES AT TELRIC PRICES INFLUENCE THEIR INCENTIVE**
9 **TO INVEST?**

10 A. In my opinion, that obligation is likely to enhance their incentive to invest,
11 particularly under the terms of the FCC's *TRO*. At least three
12 considerations support this opinion. First, by definition, UNE prices set in
13 accordance with the TELRIC concept are fully remunerative. Specifically,
14 by definition, the long-run incremental cost of a product includes a
15 competitive, risk-adjusted return on invested capital. Consequently,
16 contrary to ILEC assertions, the revenue received from the sale of UNES
17 at TELRIC prices provides an adequate economic incentive to make the
18 investments needed to install and maintain local exchange network
19 facilities.

²⁶ In the terminology of microeconomics, increasing the price of an input (or, equivalently, denying access to that input) causes both a substitution and an output effect. Where the latter exceeds the former, demand for (and investment in) the substitutable input (here, CLEC-owned switches) falls. See T. Randolph Beard and George S. Ford, "Make or Buy? Unbundled Elements as Substitutes for Competitive Facilities in the Local Exchange Network," Phoenix Center Policy Paper Number 14, September 2002.

1 Second, the TRO specifically exempts from the standard UNE
2 obligations ILEC investment in next-generation digital/fiber optic facilities,
3 such as fiber-to-the-home (FTTH). That is, the only facilities that remain
4 subject to unbundling requirements and TELRIC pricing are associated
5 with the legacy network, which is already in place and, therefore, requires
6 relatively little investment. Thus, the ILECs' claim that continued provision
7 of UNEs at TELRIC prices will discourage them from investing simply
8 makes no sense under the provisions of the *TRO*. A constraint placed on
9 one set of facilities is not likely to restrain investment in another,
10 substitutable set of facilities. If anything, it is likely to enhance it.

11 And, third, the primary purpose of making UNEs available at
12 TELRIC prices is to facilitate entry into local exchange markets. To the
13 extent this policy serves that purpose, the competitive pressure felt by the
14 ILECs is intensified. That is, as entry unfolds, the incumbent supplier will
15 increasingly find that its (formerly captive) customers are being offered
16 new service options and reduced prices from competing suppliers. In
17 response, the ILECs will be forced to invest in network upgrades,
18 expansions, and next-generation technologies in order to remain
19 competitive in this new market environment. Thus, the enhanced retail
20 competition spawned by UNE-based entry will push the ILECs to increase,
21 not decrease, their network investment.

1 Q. ARE YOU AWARE OF ANY EMPIRICAL EVIDENCE THAT SUPPORTS
2 THE ABOVE OPINIONS?

3 A. Yes. A series of empirical studies has appeared, both in documents filed
4 in regulatory proceedings and in the published literature, that has
5 attempted to sort out the impact of UNE pricing and availability on
6 observed investment in network facilities by both CLECs and ILECs.²⁷ In
7 my opinion, an objective reading of these studies overwhelmingly supports
8 the CLECs' position on this issue. That is, the more carefully specified
9 models that rely upon more accurate data tend to confirm the following
10 three conclusions:

- 11 1. The availability of UNEs (including UNE-P) at TELRIC prices
12 encourages CLEC entry into local exchange markets;
- 13 2. The availability of UNEs (including UNE-P) at TELRIC prices
14 increases CLEC investment in local exchange network
15 facilities; and
16
- 17 3. The availability of UNEs (including UNE-P) at TELRIC prices
18 increases ILEC investment in local exchange network
19 facilities.
20
21

²⁷ See UNE Prices and Telecommunications Investment by John Haring, Margaret L. Rettle, Jeffrey H. Rohlf, and Harry M. Shooshan III, Strategic Policy Research, submitted on behalf of Qwest, in its reply comments, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338 (July 2002); UNE-P and Investment, prepared for and submitted by BellSouth, SBC, and Verizon, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338 (July 2002); Robert D. Willig, William H. Lehr, John P. Bigelow, and Stephen B. Levinson, "Stimulating Investment and the Telecommunications Act of 1996," (*mimeo*), October 11, 2002; C. Michael Pfau, "Correcting the RBOCs' Empirical Analyses of the Linkage Between UNE-P and Investment," (*mimeo*); T. Randolph Beard, George S. Ford, and Thomas M. Koutsky, "Mandated Access and the Make-or-Buy Decision: The Case of Local Telecommunications Competition," (*mimeo*); T. Randolph Beard and George S. Ford, "Make or Buy? Unbundled Elements as Substitutes for Competitive Facilities in the Local Exchange Network," Phoenix Center Policy Paper Number 14 (September 2002); and Federico Mini, "The Role of Incentives for Opening Monopoly Markets: Comparing GTE and BOC Cooperation with Local Entrants," Journal of Industrial Economics, Vol. 49 (September 2001), pp. 379-414.

1 . Moreover, in my opinion, none of the studies I have reviewed have
2 provided any credible evidence to support the ILECs' claim that continued
3 provision of UNEs in general, or unbundled local circuit switching in
4 particular, will choke off network investment by either party.²⁸

5
6 **Q. CAN YOU BRIEFLY DESCRIBE THE BASIC STRENGTHS AND**
7 **WEAKNESSES OF THESE STUDIES?**

8 A. Yes. Consider first the ILEC-sponsored studies, which are the first two
9 works cited in footnote 27. These analyses purport to provide empirical
10 evidence of the alleged investment-dampening effects of making UNEs
11 widely available at TELRIC prices. As Willig, *et al.* (2002), and Pfau
12 explain, these studies suffer from three fundamental weaknesses that
13 render their conclusions unreliable. First, both of these analyses employ
14 an erroneous measure of the economic concept of investment.
15 Specifically, they examine the *level* of net plant in place (a stock) as their
16 investment variable. Investment, however, is a flow and is, therefore,
17 more accurately measured by observed *changes* in net plant. Second,
18 neither of these studies is founded upon a fully-specified econometric
19 model that controls for important exogenous factors, such as variations in
20 demand, costs, and the impacts of differing state regulatory environments.
21 As a result, both of these empirical analyses are underspecified and,
22 therefore, produce biased and unreliable results. Third, the data

²⁸ This opinion holds *a fortiori* given the exemption of FTTH provided in the FCC's TRQ.

1 employed in the second study is both incorrect and incomplete. Most
2 important, when these data are corrected and the full sample is employed,
3 support for the ILECs' position vanishes. Thus, these two studies are
4 fundamentally flawed and, accordingly, should be afforded no weight in
5 formulating policy decisions.

6 In contrast, the remaining five studies cited in footnote 27 provide
7 empirical support for the CLECs' argument that TELRIC-priced UNEs tend
8 to stimulate both ILEC and CLEC investment. Significantly, these studies
9 employ a conceptually correct measure of investment, estimate more fully-
10 specified econometric models, and rely upon more accurate and complete
11 data sets. Moreover, despite considerable variation in the specific
12 models, data, and estimation techniques, all of these analyses reach
13 strikingly similar results. For example, Willig, *et al.*, (2002) write (at 23)
14 that:

15 ... in both cases the estimated coefficient on the UNE
16 price is negative and significant. This means that after
17 taking into account all the factors accounted for by other
18 independent variables in the regression, higher UNE
19 prices discourage ILEC investment. Thus, the results
20 provide strong support for the Competitive Stimulus
21 Hypothesis, and reject the Investment Deterrence
22 Hypothesis.

23 (Emphasis in original.)

24 Similarly, Pfau, at 2, concludes that:

25 ... a properly supported and revised analysis shows:
26 (1) UNE-P does not detract from CLEC facilities-based
27 line penetration or discourage cable-based telephony;
28 (2) UNE-P does not reduce -- and may in fact increase --
29 the intensity of CLEC switch deployment per access line;
30
31

1 ... and (4) UNE-P does not reduce and may instead
2 increase RBOC investment.
3

4 And Beard and Ford (2002), at 9, state:
5

6 The policy implication is clear: at current prices,
7 unbundled switching is not a substitute for self-deployed
8 switching, and increases in the switching price will not
9 increase the quantity of loops serving end users with
10 CLEC-deployed switching equipment.
11

12 Thus, in my opinion, the weight of the evidence clearly favors the
13 CLECs' position that increases in UNE prices and/or restrictions on UNE
14 availability will harm investment in this industry.
15

16 **Q. GIVEN THE ABOVE THEORY AND EVIDENCE, WHAT, IN YOUR**
17 **OPINION, WOULD BE THE IMPACT OF REMOVING LOCAL CIRCUIT**
18 **SWITCHING FROM THE SET OF UNES THAT THE ILECs MUST MAKE**
19 **AVAILABLE AT TELRIC PRICES?**

20 **A.** The theory and evidence described above, along with the current heavy
21 reliance of the CLECs in this state on the UNE-P entry option for their
22 mass-market customers, indicate that such a policy action will have two
23 immediate and mutually reinforcing anticompetitive consequences. First,
24 some CLECs for which a transition to the UNE-L alternative (*i.e.*, the
25 purchase and installation of their own switches) is not economic will simply
26 exit the market. And, second, the remaining CLECs who are able to
27 survive under the UNE-L strategy will remain in the market, but will
28 experience non-trivial cost increases as the transition to self-deployed
29 switching is completed. Moreover, due to these increased costs, these

1 firms will be driven to curtail their market coverage by limiting their service
2 offerings to relatively higher-revenue customers. As a result, the lower
3 end of the market -- residential customers and rural areas -- will likely be
4 abandoned.

5 Significantly, *both* of these outcomes shift the collective supply
6 curve of the CLECs to the left, increasing the residual demand for the
7 ILECs' services.²⁹ The upshot is an increase in both the ILECs' market
8 share and their monopoly power, which, in turn, reduces the feasibility of
9 moving to a deregulated environment. Thus, both impacts conflict directly
10 with the competition promoting, deregulatory goals of the Act. And they
11 also conflict with the ultimate goal, which is lower prices and improved
12 service for consumers.

13
14 **Q. WHAT IS THE BASIC CONCLUSION THE COMMISSION SHOULD**
15 **DRAW FROM THIS DEBATE?**

16 A. The basic lesson here is that the ILECs' claim that their continued
17 obligation to provide the UNE Platform at TELRIC prices threatens to
18 reduce investment in network infrastructure is simply a red herring.
19 Indeed, any claim that competition or investment can somehow be
20 increased by raising the price (or, equivalently, reducing the availability) of
21 an essential input to entrants should be viewed with considerable

²⁹ See S. Salop and D. Scheffman, "Raising Rivals' Costs," American Economic Review, Vol. 73 (May 1983), pp. 267-271.

1 suspicion.³⁰ The theory and evidence presented above confirm that
2 suspicion — namely, contrary to the ILECs' claim, both network
3 investment and competition are enhanced by a policy requiring continued
4 supply of those inputs at TELRIC prices.

5 Therefore, the Commission needs to stay focused on the Act's
6 policy of promoting local exchange competition. It is by promoting that
7 goal that all of the other objectives of the Act will be met — lower prices,
8 greater investment, technological advancement, and deregulation.

9
10 **VI. CONCLUSION**

11
12 **Q. DO YOU HAVE ANY FINAL THOUGHTS BEFORE CONCLUDING**
13 **YOUR TESTIMONY?**

14 **A.** Yes. The pursuit of competition in the provision of telecommunications
15 services in Pennsylvania is noble. It is, however, not likely to be achieved
16 easily or without controversy. The entrenched monopoly nature of the
17 provision of local exchange service is clearly the most difficult remaining
18 obstacle to the establishment of a truly competitive telecommunications
19 marketplace. As a result, to achieve the goal of effective competition it will
20 be necessary for the Commission to use every reasonable means
21 available to open the local exchange market to competition. A tool
22 provided by the Telecommunications Act of 1996 -- unbundled network

³⁰ The ILECs' obvious incentive to undermine the emergence of competition for their services should increase that suspicion.

1 elements – has proven to be an effective avenue for stimulating both entry
2 and competition. While the FCC has determined at a national level that
3 this option remains critically important to prospective entrants, this state-
4 level proceeding raises the possibility that UNE availability will be denied
5 to prospective entrants, even if it remains a critical vehicle for them. Given
6 the very high value of benefits that are possible to the citizens of
7 Pennsylvania from competition, this Commission must establish a rigorous
8 standard, derived from the Act and the *TRO*, for making a finding of “no
9 impairment.” To do otherwise places the entire horizon of competitive
10 benefits at risk.

11

12 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

13 **A. Yes.**

Appendix 1

VITA
JOHN W. MAYO

CURRENT POSITION:

Dean
Professor of Economics, Business and Public Policy, and
Executive Director, Center for Business and Public Policy
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EDUCATION:

Ph.D., 1982, Washington University (St. Louis)

Dissertation: "Diversification and Performance in the U.S. Energy Industry"

M.A., 1979, Washington University (St. Louis)

B.A., 1977, Hendrix College, Conway, Arkansas

FIELDS OF SPECIALIZATION:

Industrial Organization
Regulatory and Antitrust Policy
Applied Microeconomics
Econometrics

PREVIOUS POSITIONS:

1999-2001 – Senior Associate Dean, McDonough School of Business, Georgetown University.

1997-1998 (Academic year) – Visiting Professor of Economics, Business and Public Policy, Georgetown University School of Business, Washington, D.C.

July 1994 – July 1998 – The University of Tennessee, Knoxville, TN.
Professor of Economics, Department of Economics.

July 1989 - June 1994 – The University of Tennessee, Knoxville, TN.
Research Associate Professor, Center for Business and Economic Research, and
Associate Professor of Economics, Department of Economics.

September 1981 - June 1989 -- The University of Tennessee, Knoxville, TN.
Research Assistant Professor, Center for Business and Economic Research, and
Assistant Professor of Economics, Department of Economics, September 1981-
June 1988.

June 1984 - June 1985 -- U.S. Senate, Small Business Committee.
Chief Economist, Democratic Staff.

August 1982 - December 1982 – VPI, Blacksburg, VA.
Visiting Assistant Professor of Economics, Blacksburg, Virginia.

1980 - 1981 – Washington University, Center for the Study of American Business
Dissertation Fellow

1979 – International Institute for Applied Systems Analysis (IIASA) Laxenburg, Austria.
Energy Research Fellow

1979-1980 -- Washington University, Graduate School of Business Administration
Research Assistant.

1978 -- Washington University, Institute for Urban and Regional Studies.
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HONORS, AWARDS, AND GRANTS:

Undergraduate: Mosley Economics Prize (=1 graduating economics major), Alpha Chi
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Graduate: University Fellowship, Washington University (1977-78); National Academy
of Sciences Young Research Fellow, Laxenburg, Austria (1979); President, Washington
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Center for the Study of American Business, Washington University (1980-81).

Post-Graduate: Zaeslin Fellow of Law and Economics, University of Basel, Basel,
Switzerland (2000 - present); William B. Stokely Scholar, College of Business
Administration, The University of Tennessee (1993-1995); South Central Bell Research
Grant (1988); Research Affiliate, Center of Excellence for New Venture Analysis, The
University of Tennessee (1985); Summer Faculty Research Fellowships, College of
Business Administration, The University of Tennessee (1983-1985).

COURSES TAUGHT:

Undergraduate: Principles of Microeconomics, Current Economic Problems, Government and Business, Intermediate Microeconomics, Energy Economics

Graduate: Managerial Economics (MBA), Managing in a Regulated Economy (MBA), Economics (Executive MBA), The Economics of Strategy (MBA), Business and Public Policy (MBA); Competition and Competition Policy (MBA); Regulation and Deregulation in the American Economy (MBA), Understanding International Business (MBA), Industrial Organization and Public Policy (Ph.D.), The Economics of Antitrust and Regulation (Ph.D.)

PUBLICATIONS:

A. JOURNAL ARTICLES

“On the Impotence of Imputation” (with T. Randolph Beard and David L. Kaserman), Telecommunications Policy, Volume 27, Issues 8-9, September-October 2003, pp. 585-595.

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"Modeling Entry and Barriers to Entry: A Test of Alternative Specifications," (with Mark L. Burton and David L. Kaserman), Antitrust Bulletin, Summer 1999, pp. 387-420.

"Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Telephone Service," (with Ross Eriksson and David L. Kaserman) Journal of Law and Economics, Vol. 41, October 1998, pp. 477-502.

"Dominant Firm Pricing with Competitive Entry and Regulation: The Case of IntraLATA Toll," (with Larry Blank and David L. Kaserman) Journal of Regulatory Economics, Vol. 14, July 1998, pp. 35-54.

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An Economic Report to the Governor of the State of Tennessee, Center for Business and Economic Research and the Tennessee State Planning Office, Annual Contributor, 1981-1994.

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"Directly Served Industries and the Regional Economy" (with Charles Campbell), Contract Completion Report, the Center for Business and Economic Research, The University of Tennessee, October 1984.

CONGRESSIONAL AND REGULATORY TESTIMONIES:

U.S. Senate (Commerce, Science and Transportation Committee; Energy and Natural Resources Committee, Subcommittee on Water and Power;); Tennessee State Legislature (Senate Finance, Ways and Means Committee; Special Joint Legislative Committee on Business Taxation; and, Senate State and Local Government Committee); Maryland State Legislature (Environmental Works Committee); Federal Communications Commission; Pennsylvania Public Utility Commission; Michigan Public Service Commission; Missouri Public Service Commission; Illinois Commerce Commission; West Virginia Public Utility Commission; Wyoming Public Utility Commission; Washington Utilities and Transportation Commission; Utah Public Service Commission; Wisconsin Public Service Commission; California Public Utilities Commission; Florida Public Service Commission; Delaware Public Service Commission; Montana Public Service Commission; Maryland Public Service Commission; Massachusetts Department of Public Utilities; Georgia Public Service Commission; Colorado Public Utilities Commission; North Carolina Public Utilities Commission; Texas Public Utility Commission; Arkansas Public Service Commission; Connecticut Department of Public Utility Control; Kansas State Corporation Commission; and New Jersey Board of Public Utility Commissioners.

INVITED SEMINARS AND SELECTED CONFERENCE PRESENTATIONS:

Columbia University, University of Chicago, University of Paris (Dauphine IX), Vanderbilt University, Washington University in St. Louis, University of Michigan, Ohio State University, University of Minnesota, University of Florida, University of Texas, Rutgers University, University of Missouri, Kansas University, University of Utah, University of Basel (Switzerland), University of Freiburg (Germany), University of Central Florida, American Enterprise Institute, Federal Communications Commission, Telecommunications Policy Research Conference (TPRC), National Conference of State Legislatures and the U.S. Advisory Commission on Intergovernmental Relations, Southwestern Bell Corporation

CONSULTING:

U.S. Department of Justice, Antitrust Division; U.S. Federal Trade Commission; AT&T; Sprint; MCI Telecommunications; Enron Power Marketing, Inc.; Optus Communications (Australia); United Parcel Service; Tennessee Valley Authority; Antitrust Division, Office of the Attorney General, State of Tennessee; U.S. Senator Howard Baker, Jr., U.S. Senate Majority Leader; Oak Ridge National Energy Laboratory; Arkansas Consumer Research; Division of Energy Conservation and Rate Advocacy, Office of the Arkansas Attorney General; U.S. Department of Energy

PROFESSIONAL PRESENTATIONS:

"Warm Glow and Charitable Giving: Why Don't the Wealthy Give More to Charity?" (with Catherine H. Tinsley). Presented to the Southern Economic Annual meetings, Tampa, Florida, November 2002.

"Competition, Policy and Firm Strategy in U.S. Long Distance Telecommunications." Presented to the Academy of Management annual meetings, Washington, D.C. July 2001.

"Regulation and Administrative Discretion: Evidence From the Electric Utility Industry" (with Thomas P. Lyon). Presented to the Southern Economic Association Annual Meetings, Atlanta, GA, November 1997.

"Regulation, Vertical Integration and Sabotage." (with T. Randolph Beard and David L. Kaserman)
Presented to the Western Economic Association Annual Meetings, Seattle, Washington, July 1997.

"Regulation and Investment: Evidence from the Electric Utility Industry." (with Thomas Lyon) Presented to the American Economic Association Annual Meetings, New Orleans, January 1997.

"Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Telephone Service." Presented to the Southern Economic Association Annual Meetings, New Orleans, November 1995.

"Dominant Firm Pricing with Competitive Entry and Regulation: The Case of IntraLATA Toll," with Larry Blank and David L. Kaserman. Presented to the Southern Economic Association Annual Meetings, Orlando, Florida, November 1994.

"The Economic Welfare Effects of Extended Area Telephone Service," with Carlos Martins-Filho. Presented to the Western Economic Association Annual Meetings, Seattle, Washington, July 1991.

"Demand, Pricing and Regulation of Cable TV Services: Evidence from the Pre-Deregulation Period," with Yasuji Otsuka. Presented to the Southern Economic Association annual meetings, New Orleans, Louisiana, November 1990.

"Market Contestability: Toward an Operational Index," with David L. Kaserman. Presented to the Western Economic Association annual meetings, Lake Tahoe, Nevada, June 1989.

"The Political Economy of Deregulation: The Case of Intrastate Long Distance," with David L. Kaserman and Patricia Pacey. Presented to the Southern Economic Association annual meetings, San Antonio, Texas, November 1988.

"Barriers to Trade and the Import Vulnerability of U.S. Manufacturing Industries," with Don Clark and David L. Kaserman. Presented to the Southern Economic Association annual meetings, San Antonio, Texas, November 1988.

"Cross-Subsidization in Telecommunications: Economic Theory Versus Regulatory Rhetoric" with David L. Kaserman, Western Economic Association annual meetings, Vancouver, British Columbia, July 1987. Also presented at the Southern Economic Association annual meetings, Washington, D.C., November 1987.

"The Effects of Regulation on R&D: Theory and Evidence," Southern Economic Association annual meetings, New Orleans, Louisiana, November 1986.

"The Measurement of Vertical Economies and the Efficient Structure of the Electric Utility Industry" with David L. Kaserman, American Economic Association annual meetings, San Francisco, California, December 1983.

"Regulation, Advertising and Economic Welfare" (with David L. Kaserman), Southern Economic Association annual meetings, Washington, D.C., November 1983.

"Multiproduct Monopoly, Regulation and Firm Costs," Southern Economic Association meetings, Atlanta, Georgia, November 1982.

"Forecasting Economic Activity in Tennessee with a Quarterly Econometric Model," Southeastern Economic Analysis Conference, Charlotte, North Carolina, September 1982.

"The Technological Determinants of U.S. Energy Industry Structure." Regulatory Workshop, Center for the Study of American Business and the Department of Economics, Washington University, December 1981.

WORKING PAPERS:

"Warm Glow and Charitable Giving: Why Don't the Wealthy Give More to Charity" (with Catherine H. Tinsley), June 2001.

"Regulation and Common Costs: Estimation versus Allocation," (with Mark L. Burton and David L. Kaserman), 2002.

"Administrative Discretion and Investment Behavior: Evidence from the U.S. Electric Utility Industry," (with Thomas P. Lyon), June 2003.

EDITORIAL REVIEWER:

National Science Foundation, Brookings Institution, Federal Trade Commission, The MIT Press, American Economic Review, Quarterly Journal of Economics, Journal of Law and Economics, Economic Journal, Journal of Business, RAND Journal of Economics, Journal of Regulatory Economics, Review of Economics and Statistics, Economic Inquiry, Journal of Industrial Economics, Journal of Economics & Management Strategy, Review of Industrial Organization, Scandinavian Journal of Economics, Eastern Economic Journal, Southern Economic Journal, Contemporary Economic Policy, Industrial Relations, Growth and Change, Review of Regional Studies, Journal of Economics and Business, Quarterly Review of Economics and Business, Journal of Policy Analysis and Management, Quarterly Journal of Business and Economics, Regional Science and Urban Economics, Financial Review, Journal of Money, Credit, and Banking, Social Science Quarterly, Telecommunications Systems, Public Finance Quarterly, Japan and the World Economy, Energy Economics

EDITORIAL, CORPORATE BOARDS AND OVERSIGHT BODIES

Editorial Board, Journal of Regulatory Economics, 1999-present.

Editorial Board, Review of Industrial Organization, 2002-present.

Board of Directors, Vice President, National Safety Council, October 2002- present.

Board of Trustees, Occupational and Environmental Health Foundation, June 2003-present.

Research Advisory Committee, National Regulatory Research Institute (Ohio State University), 1993-1997.

PROFESSIONAL MEMBERSHIPS AND COMMITTEES:

American Economic Association
Western Economic Association
Southern Economic Association
American Law and Economics Association

Appendix 2

The Supreme Court Weighs in on Local Exchange Competition: The Meta-Message

DAVID L. KASERMAN

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and

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Georgetown University

Abstract

The Supreme Court Opinion on local exchange competition in general and on pricing and unbundling in particular was much anticipated and will be much discussed. Because of the very technical nature of the pricing and unbundling rules facing incumbent local exchange carriers there is a considerable risk that students of the Court's Opinion will be mired in the details of that Opinion and miss what we believe is a clear, unequivocal meta-message embedded in the Opinion. Specifically, this decision unequivocally affirms a fundamental shift in regulatory policy reflected in the Telecommunications Act of 1996. That is, the Act dictates that regulators act not merely to *disable monopoly* but to adopt policies that affirmatively *enable competition*. The Court's Opinion now confirms this interpretation of the congressional intent behind the legislation. Thus, while it is fair to say that the Court's specific decision with respect to the pricing and unbundling issues represents an important component of a regulatory policy designed to promote competition in local exchange telephony, there is a larger lesson embedded in the Court's reading of the Telecommunications Act. In this paper we first consider in some detail the Opinion and how it reflects an unambiguous endorsement of a competition-enabling framework for the development of local exchange competition. Next, we point out that, despite the Court's unambiguous and clear ruling, a dispassionate scrutiny of economic and regulatory conditions present in local exchange markets – even in the wake of the Court's ruling – reveals a number of extraordinary obstacles to the successful emergence of effective local exchange competition that still remain.

1 Introduction

As witnessed by this volume, the recent Supreme Court decision affirming the legality of the Federal Communications Commission's (FCC's) policies regarding the pricing and unbundling of incumbent local exchange company (ILEC) network elements will certainly draw immediate and critical attention. Much of this attention will likely be focused on the

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technical merits of the Court's decision, specifically with respect to the FCC's pricing and unbundling requirements. While such scrutiny is entirely appropriate, it raises the prospect that the larger message reflected in this decision will be missed.

In particular, we believe that there is an important message to be drawn from the Court's Opinion that goes well beyond the specific issues of TELRIC pricing and unbundling requirements. Specifically, this decision unequivocally affirms the fundamental shift in regulatory policy reflected in the Telecommunications Act of 1996. As we have argued elsewhere, that Act mandates a fundamental regime shift for federal and state regulators.¹ Namely, the Act imposes a new obligation not only to *allow* competition to emerge in formerly protected markets but also to adopt policies designed to *facilitate* such emergence. That is, the Act dictates that regulators act not merely to *disable monopoly* but to adopt policies that affirmatively *enable competition*.² The Court's Opinion now confirms this interpretation of the congressional intent behind the legislation.

Thus, while it is fair to say that the Court's specific decision with respect to the pricing and unbundling issues represents an important component of a regulatory policy designed to promote competition in local exchange telephony, there is a larger lesson embedded in the Court's reading of the Telecommunications Act. This lesson is developed in Section 2 below. Section 3, then, considers the implications of this new mandate for federal and state-level regulators that go beyond the more narrow issues dealt with in the Opinion. Specifically, we point out that, despite the Court's unambiguous and clear ruling, a dispassionate scrutiny of economic and regulatory conditions present in local exchange markets – even in the wake of the Court's ruling – suggests a number of extraordinary obstacles to the successful emergence of effective local exchange competition that still remain. Section 4 then concludes.

2 Competition-enabling policies: A fundamental shift in regulatory mandate

The Telecommunications Act of 1996 represents a path-breaking piece of legislation in a variety of ways. At the most basic level, however, the truly novel aspect of the Act was its subtle but, we believe, unequivocal call for a change in the regulatory mandate in the telecommunications industry. Specifically, unlike prior public policies towards the telecommunications industry, which had sought first to control monopoly and later to *disable monopoly*, the passage of the Telecommunications Act signaled a new mandate that regulators at both the federal and state levels should implement policies specifically designed to *enable competition*. As we shall see in this section, this last set of policies is fundamentally different from prior policies that had been applied to the telecommunications industry.

The traditional economic rationale for regulation of the telecommunication industry is that the services supplied over the public switched telephone network have been subject to

¹ See Kaserman and Mayo (1999).

² It is important at the outset to emphasize the distinction between policies designed to facilitate entry and thereby enable competition and policies designed to promote "infant firms" through subsidizing actions. While the former is, we believe, the best vehicle to promote the long-run viability of effective competition, economists have properly subjected the later approach to considerable criticism.

natural monopoly supply.³ Beginning with *Hush-a-Phone* and continuing through the divestiture agreement in 1982 which separated AT&T from the Bell operating companies, it was increasingly recognized that not all telecommunications services were necessarily subject to natural monopoly conditions. As the Court aptly notes in its most recent decision, however, “The [1982 divestiture] decree did nothing ... to increase competition in the persistently monopolistic local markets, which were thought to be the root of natural monopoly in the telecommunications industry.”⁴

Indeed, simplifying only slightly, it is fair to say that prior to the passage of the Telecommunications Act of 1996, two principal methods were utilized to deal with the monopoly problems created by the structure of the telecommunications industry. First, a surgical approach involving structural separation of the monopoly from competitive elements within the industry was used to prevent remaining monopoly elements from impeding the growth of competition in potentially non-monopoly segments. This approach was the central feature of the 1982 Modification of Final Judgment that led to the divestiture of AT&T from the Bell Operating Companies. The second, less draconian, approach has been to leave in place the combination of monopoly and potentially competitive elements of the industry, but to seek to protect competitors – both potential and actual – from monopolistic practices of the incumbent through regulatory rules, or safeguards. Certainly with respect to the services provided by the Regional Bell Operating Companies (RBOCs), the pre-1996 Act policies of the FCC and state regulatory commissions were largely consistent with this latter approach.

As we have argued elsewhere, however, both of these regulatory approaches toward the telecommunications industry suffer drawbacks.⁵ Specifically, while the structural separations approach can eliminate both the incentive and ability to engage in monopoly leveraging from non-competitive to competitive markets, it has the prospect of eliminating any economies of scope that may exist in the joint production of monopoly and potentially competitive services. Alternatively, the regulatory rules approach preserves the potential realization of economies of scope by permitting the firm to remain intact, but necessarily involves costly and potentially complex rules that seek to prevent the incumbent from using its monopoly power to impede the emergence of competition. Moreover, such regulatory rules often fail to achieve the intended effects, as incumbents are able to devise novel approaches that circumvent these constraints.⁶

A third approach, which we have advocated and which the Supreme Court has now found to be the bedrock of the Telecommunications Act of 1996 is for regulators to fundamentally shift their approach toward incumbent local exchange providers. Specifically, this approach calls upon regulators to shift their agendas from controlling or *disabling monopolies* to a more active policy of *enabling competition*. Such a shift requires that regulators affirmatively engage in a variety of non-traditional policies that are designed to facilitate the emergence of competition. Among these, competition enabling requires that regulators aggressively act to: (1) eliminate barriers to entry; (2) classify monopoly and “effectively competitive” services (moving expeditiously to deregulate the later); (3) adopt

³ As Justice Breyer notes in his dissenting opinion, “For decades experts justified regulation on the ground that telecommunications providers were ‘natural monopolists,’ i.e., telecommunications markets would not support more than one firm of efficient size.” (p. 7)

⁴ Opinion, p. 2.

⁵ For a more detailed discussion, see Kaserman and Mayo (1999).

⁶ See Stelzer (1997) and Beard, Kaserman and Mayo (2002).

efficient pricing policies, particularly for inputs required by competitors; and, (4) eliminate all internal cross-subsidies for retail regulated services. In recognition of the necessarily “mixed” monopoly and competitive environment that will inevitably exist in the short run, competition enabling also requires that regulators unbundle network elements, require unrestricted resale and ensure, insofar as possible, nondiscriminatory interconnection policies.

Importantly, the Court’s Opinion explicitly recognizes that the Telecommunications Act does indeed call for a fundamental regulatory regime shift that is consistent with a competition-enabling (C-E) policy agenda. For example, at page 15, the Opinion points out that Congress sought to reject the traditional regulatory approach that had prevailed prior to the Act.

[O]ne possible lesson was drawn by Congress in the 1996 Act, which was that regulation using traditional rate-base methodologies gave monopolies too great an advantage and that *the answer lay in moving away from the assumption common to all rate-base methods, that the monopolistic structure within the discrete markets would endure.*⁷ (emphasis added)

The call for a regulatory regime shift is further emphasized by the Court when it observes:

Congress called for ratemaking different from any historical practice, to achieve the entirely new objective of uprooting the monopolies that traditional rate-base methods had perpetuated.⁸ (emphasis added)

The desire by Congress to implement a C-E policy approach is underscored again by the Court when it states that:

For the first time, Congress passed a ratesetting statute with the aim not just to balance the interests between sellers and buyers, but to *reorganize markets by rendering regulated utilities’ monopolies vulnerable to interlopers...*⁹ (emphasis added)

and

Thus, the Act appears to be an explicit disavowal of the familiar public-utility model...in favor of novel ratesetting designed to give aspiring competitors every possible incentive to enter local retail telephone markets, short of confiscating the incumbents’ property.¹⁰ (emphasis added)

The importance of the intent of Congress to foster C-E policies cannot be overstated in an environment that has been, and certainly will continue to be, rife with uncertainty and contradictory interpretations of ambiguities that exist in either the law or economics regarding the implementation of the Act. For example, in its determination of the legality of the TELRIC standard for pricing, the Court is immediately drawn into the sticky issue of what is meant by the term “cost” in the 1996 Act.¹¹ The Court recognizes that in the absence of additional defining language, the term cost is a “virtually meaningless term” and “a chameleon”.¹² In light of this ambiguity, the Court finds – on legal grounds – that it cannot overturn the FCC’s interpretation of the term “cost”. Somewhat more subtly, but equally importantly for the future, is the Court’s implicit recognition that the FCC’s adoption of the TELRIC pricing principle is consistent with Congressional intent that calls

⁷ Opinion, p. 15

⁸ Opinion, pp. 15-16.

⁹ Opinion, p. 16.

¹⁰ Opinion, p. 17.

¹¹ Opinion, p. 26 ff.

¹² Opinion, pp. 28-29.

upon regulators to implement C-E policies. In so doing, the Court requires that regulators' policies be in harmony with Congress' intent to enable competition.

Another critical component of the Court's Opinion is its recognition that ILECs continue to enjoy substantial incumbency advantages and that passive policies or half-hearted attempts to "open" local exchange markets to competition are likely to fail. For instance, the Court notes that:

Thus, it is easy to see why a company that owns a local exchange...would have an almost insurmountable competitive advantage not only in routing calls within the exchange, but, through its control of this local market, in the markets for terminal equipment and long-distance as well.¹³

In sum, the Court's Opinion is likely to draw considerable attention regarding its support for the FCC's specific TELRIC pricing and unbundling requirements. Perhaps more important, however, is the endorsement by the Court of the need for regulators, acting under the Telecommunications Act, to aggressively pursue C-E policies and its recognition that unless such policies are pursued vigorously and steadfastly, the powers of incumbency and monopoly are likely to prevail. Indeed, as we shall argue in the next section, while the Court has given clear support for the unbundling and pricing rules of the FCC, a number of other "trouble spots" lie in the wings that, despite this ruling, stand to impede the growth of competition in local exchange telephony.

3 Impediments to competition

Significant hopes were raised that competition could be fostered in local exchange markets by the 1996 Act. Those hopes have been at least partially reignited by the Supreme Court's recent affirmation of the legal authority of the FCC to adopt and impose UNE pricing and unbundling/rebundling rules that are relatively favorable to entrants. Nonetheless, a number of "dark clouds" remain on the horizon that represent substantive obstacles that must still be overcome before effective competition can emerge in local exchange retail markets. Specifically, at least four types of impediments to local exchange competition remain looming on the horizon, the Supreme Court's Opinion notwithstanding.

3.1 Other, non-UNE distortions

The Supreme Court Opinion unequivocally provides authority to the FCC to implement TELRIC pricing for unbundled network elements. The breadth of inputs that constitute such "elements" and are, therefore, subject to TELRIC principles, however, is not addressed by the Court's decision. This issue of UNE definition potentially presents a set of critical obstacles still facing the CLECs. These obstacles fall into two categories: pricing and availability. In the realm of pricing, federal and state regulators must set prices for certain network "elements" or inputs that may not fall under the scope of the narrowly interpreted letter of the Telecommunications Act. The most obvious example, of course, is the pricing of access to the local exchange network when the transmission involves a long-distance call.

Although it may not be an "element" under the Act, such access is clearly a necessary input for any telephone company that wishes to compete either in the long-distance arena or, as is more and more likely, across both local and long-distance calling. Indeed, the

¹³ Opinion, p. 18.

access required by a long-distance carrier to complete a call to a given customer is virtually identical to the local call termination service required by a CLEC to complete a call to the same customer. While the former service (access) is not considered to be a network element under the Act, the later service (local call termination) is. But as has often been stated in regulatory arenas “a minute is a minute is a minute.” Historically, however, the prices for such access services have been held well above economically efficient prices. Indeed, despite the fact that economists have recognized the inefficiencies embedded in access charges for years and these charges have generally fallen, access continues to remain well above its economic costs.¹⁴

For example, in a recent study of state-level access charges, we found that they vary from rough parity with UNE rates for terminating access (e.g., in Illinois) to over 25 times the respective UNE rate for such access (e.g., in Virginia).¹⁵ The economic case to reconcile the level of access charges with the underlying TELRIC rates (which we make elsewhere) is compelling and should provide an impetus for regulators to further reform these access charges.¹⁶ The Court’s “green light” to the enactment of C-E policies hopefully will provide additional stimulus to state and federal regulatory commissions to implement such reform. This process, however, will necessarily involve numerous state-level regulatory proceedings that, unless expedited, may amount to providing mouth-to-mouth resuscitation to the already drowned victim.¹⁷

Another critical issue related to the pricing of “non-UNEs” centers on the one-time fees, known as non-recurring charges or NRCs that are assessed on the new entrants whenever a customer chooses to switch from the incumbent to the new entrant. Ostensibly, the same guiding principles that drive the pricing of recurring purchases of elements would drive the pricing of NRCs. This, however, has not necessarily been the case. For instance, costs are incurred in making a “hot cut” transition of a loop from an ILEC to a CLEC. The amount of the costs that should be recovered by the ILEC is, however, subject to considerable debate. In a recent case in New York, the prevailing NRC for a hot cut was about \$24. The incumbent, however, claimed that the forward-looking costs for providing this hot cut service were roughly \$225 and that any CLEC seeking such a hot cut should be made to pay this charge. Although the New York Public Service Commission initially ordered a rate of about \$135, the ultimate rate approved by the regulatory commission (\$35) as part of an overall settlement concerning the ILEC’s regulatory plan was considerably less than the ILEC’s claimed costs. Nevertheless, this example provides powerful testimony that the ability of incumbents to delay or forestall competition does not end with the recurring UNEs.¹⁸

Yet another critical pricing issue that is likely to continue to haunt the new entrants (and thus the competition that is sought under the Telecommunications Act) is the

¹⁴ For early discussions of the inefficiencies embedded in telephone pricing, see Kahn (1984) and Kaserman and Mayo (1994).

¹⁵ See Kaserman and Mayo (2001).

¹⁶ *Ibid.*

¹⁷ For a recent discussion of the rise and fall of the CLEC industry, see Burton, Kaserman and Mayo (2002).

¹⁸ Indeed, in support of the \$35 settlement rate, the Staff of the New York Public Service Commission argued that the \$185 charge initially ordered by the Commission and, thus even greater charge sought by the incumbent) would create “a serious barrier to those CLECs trying to migrate their customer bases away from Verizon’s switches” and that the lower rate would improve “the likelihood that facilities-based competition will continue to develop.” See Prepared Testimony of Charles M. Dickson, et al., In the matter of Verizon-New York, Case 00-C-1945, February 2002.

perpetuation of cross subsidies in retail telecommunications markets. For many years, economic analysis suggested that the rates for residential, rural, primarily local exchange consumers were held artificially low and perhaps below the incremental cost of serving these customers.¹⁹ More recently, the Supreme Court acknowledged this cross-subsidization when it stated:

In order to hold down charges for telephone service in rural markets with higher marginal cost due to lower population densities and lesser volumes of use, urban and business users were charged subsidizing premiums over the marginal costs of providing their own service.²⁰

As the Court notes, the revenues necessary to continue to offer such low (and, arguably, subsidized) rates were derived by charging high rates to businesses and urban customers and to consumers with relatively large amounts of long-distance usage. While the existence of a subsidy to the aggregated set of local exchange services has increasingly been questioned, it certainly remains true that the long-standing practice of keeping rates artificially low for rural, residential local exchange customers remains very much in place in a number of locations around the country. Naturally, there can be no more effective barrier to entry into a market than rates that are held below costs. New entrants simply cannot be expected to enter retail residential markets where the rates for these services are artificially held below their respective economic cost. The result is that regulators are faced with a serious challenge: to allow the rates for subsidized services to rise to at least cover the economic cost of providing the services.²¹ At that point new entrants may find service to these segments of the communications sector profitable to serve.

Setting aside pricing issues, the second critical obstacle in this realm facing new entrants is – somewhat ironically in the face of the Court's proper interpretation of the Act – access to economically efficient rates once they are established. Consider, for example, the following. In many situations, new entrants find that the most efficient type of access for the provision of local exchange service for businesses beyond a minimal size, is non-switched access. In these circumstances, the provision of non-switched access has been identified as an "element" under the Telecommunications Act. Accordingly, it would seem very natural to make this element available to new entrants at its TELRIC rates. To date, however, the ILECs have denied new entrants access to the economically efficient rate, making such access available only at "special access" rates, which are often well above the TELRIC levels. Indeed, special access rates generally exceed the forward-looking costs that are incurred by the ILEC if it were to provide the same service to a retail customer. This denial of access to economically efficient rates acts as a classic barrier to entry by creating a cost asymmetry between the new entrants and the incumbent.²² Again, this problem is remediable. To salvage the hopes for the development of a truly competitive local exchange industry, however, regulators will need to move quickly and aggressively to

¹⁹ See, e.g., Palmer (1992)

²⁰ Opinion, p. 7

²¹ Concerns that such price increases will harm the ability to achieve the policy goal of universal telephone service are almost certainly misplaced. See, e.g., Seiderman and Mayo (1997) and Eriksson, Kaserman and Mayo (1998) who show that targeted programs to subsidize those consumers most in need of the subsidy to support subscription is far preferable on both theoretical and practical grounds to the present policy of repressing rates to the entire class of residential consumers.

²² See Stigler (1968) for a discussion of barriers to entry stemming from cost asymmetries between incumbents and prospective entrants.

ensure that new competitors are not denied economically efficient rates once they are established.

3.2 Non-price exclusionary practices

Perhaps the greatest obstacle to effective implementation of a C-E regulatory policy is the inherent inability of regulators to enforce non-discrimination rules on incumbents that hold monopoly power over inputs required by new entrants.²³ While input prices can be set and reasonably well enforced, it is nearly impossible for regulators to prevent degradation of the quality of these inputs. Particularly in network industries, the cause of a service disruption can be difficult to ascertain. And, once ascertained, the intent of the culpable party can be even more difficult to establish. Moreover, quality degradation can be just as (or, perhaps, more) effective as above-cost input prices in impeding entry into local exchange markets, because such degradation can adversely affect new firms' reputations and thereby inflict long-lasting effects.

A recent series of papers has shown that, under circumstances that closely approximate those exhibited by local exchange markets, such quality degradation or "sabotage" can be a profitable (and, therefore, likely) strategy.²⁴ And specific factual evidence of such behavior from the ILECs appears to corroborate the theory. For example, an investigation in New York recently revealed that Verizon has averaged 74% of its appointment met in the provisioning of Special Access to its downstream competitors while it has averaged 94% of its appointments met for its own retail operations. The Commission concluded that "the record suggests that Verizon treats other carriers less favorably than its own end users".²⁵ More general evidence that the ILECs have implemented this strategy is revealed in the substantial fines that regulatory commissions have levied for ILEC violations of the non-discrimination provisions of the 1996 Act. Nonetheless, despite these fines, we suspect that non-price discrimination will continue. The stakes are simply too high and detection too difficult for such behavior to be effectively discouraged.

Moreover, one of the papers on this subject demonstrates that the incentive for an incumbent monopolist to engage in sabotage increases with the stringency of regulation applied to the prices for the inputs purchases by those entrants.²⁶ In effect, the less profit the incumbent is able to extract on the inputs supplied to its rivals, the greater the incentive to exercise its monopoly power in other dimensions. This result, in turn, suggests, somewhat ironically, that the Court's endorsement of TELRIC pricing of UNEs is likely to exacerbate the quality degradation problem. That is, as UNE prices are pushed closer to their long-run incremental costs, the more sabotage we are likely to see.

3.3 Removal of the regulatory "carrot"

Recognizing both the need for ILECs to cooperate with entrants in providing essential inputs and the obvious incentive for ILECs to refuse such cooperation, Congress

²³ See Stelzer (1997).

²⁴ See, for example Economides (1998), Mandy (2000), Beard, Kaserman and Mayo (2002); and Reiffen and Ward (2002).

²⁵ See Opinion and Order Modifying Special Services Guidelines for Verizon New York, Inc., Conforming Tariff, and Requiring Additional Performance Reporting, Case 00-C-2051, Case 92-C-0665. Issued and effective June 15, 2001.

²⁶ See Beard, Kaserman and Mayo (2001).

incorporated the Section 271 provision of the 1996 Act. That provision attempts to provide an incentive for incumbent monopolists to facilitate entry by holding out a reward. Specifically, under this provision, RBOCs are allowed to reintegrate into in-region interLATA long-distance once they have sufficiently opened their local exchange markets to competition. The legislative standards that must be satisfied to meet this condition involve both an explicit checklist of entry-facilitating actions (e.g., installation of non-discriminatory operational support systems needed for processing new service orders for new entrants and maintaining billing and service functions once established) and a much less explicit requirement that the approval of reintegration be “in the public interest”. Predictably, the regulatory proceedings to implement these provisions have been prolonged and contentious as the RBOCs have sought approval to re-enter the long-distance market and these petition have generally been seen as premature by the incumbent interexchange carriers.²⁷

To date, the FCC has approved RBOC reintegration in 15 states. Whether such reintegration will benefit consumers is an empirical question for which there is, as yet, insufficient data to meaningfully address. Nonetheless, regardless of the merits of the individual reintegration orders, it is clear that once RBOC reintegration is approved, the Section 271 incentive to cooperate with entrants disappears. Like the proverbial carrot, that incentive can exist only until the object that is providing the incentive is consumed. Thus, while the Court’s Opinion may tend to facilitate CLEC entry, *ceteris paribus*, in fact, all else is not equal. To the extent that the FCC approves more Section 271 applications for reintegration, the incentives for ILEC cooperation will evaporate. Moreover, there is compelling evidence that these incentives are likely to affect firm behavior. Indeed, in a recent study of the post-Act behavior of RBOCs (which had not secured reintegration) and GTE (which was integrated into long-distance). Mini (2001) found that in the absence of the “carrot” for cooperation firms are markedly more likely to adopt aggressive tactics toward new entrants. This will, of course, pose additional challenges to prospective entrants and nascent competitors.

3.4 Litigation and regulatory uncertainties

While the Court’s Opinion would nominally seem to put an end to costly, time-consuming and entry-retarding legal and regulatory wrangling over pricing and unbundling issues, a realistic assessment suggests that rather than putting an end to such debate it will only change the venue for continued legal and regulatory manoeuvring by the ILECs. Indeed, in the wake of the Court’s opinion Verizon immediately announced that it would continue to fight the pricing and unbundling rules at the FCC.

As a Verizon spokesman stated: “Just because something is legal does not mean it is good public policy.”²⁸ In light of statements such as this and the ongoing incentive by the ILECs to preserve their monopoly power, it is very likely that state and federal regulators – and in all likelihood, the courts – will continue to see efforts on the part of the ILECs to deter entry. For instance, in the immediate wake of the announced intention by AT&T to enter local exchange markets in Ohio, SBC has recently proposed to sharply increase UNE

²⁷ Under the Act, these proceedings take place before state regulatory commissions. The ultimate decision to approve RBOC reintegration, however, lies with the FCC.

²⁸ Stern (2002). See also the letter of William Barr, Executive Vice President and General Counsel, Verizon to Michael Powell, Chairman of the Federal Communications Commission, July 16, 2002.

rates. SBC's proposal is to increase existing loop rates of less than \$6 to over \$17.50 per loop per month. Similarly, SBC proposes to increase local switching charges by rates up to 6000 percent.²⁹ The willingness and ability by ILECs to fund such legal and regulatory maneuvers, even if they ultimately prove unsuccessful, are likely to serve to blunt whatever economic incentives the market may be otherwise sending to prospective entrants on the merits of entry.

Finally, the recent opinion fails to resolve an issue that will, most certainly, continue to preoccupy policymakers in the implementation of TELRIC prices. Specifically, low UNE prices and relatively favorable wholesale rates can obviously facilitate entry into the retail stage of local exchange telecommunications markets. They cannot, however, break the monopoly that the ILEC's continue to hold over the upstream network infrastructure that ultimately must be accessed to provide service to final customers. And, until that monopoly is broken, difficult regulatory problems will persist and complete deregulation will remain a distant dream.

Two separate arguments have appeared concerning the UNE pricing policy that is more likely to foster the upstream facilities-based entry needed to break the last-mile monopoly. First, the ILEC's and their supporters have argued that relatively high UNE prices are more likely to promote the necessary network-stage entry. Low resale and lease prices, they argue, will cause investment in facilities to be unattractive, as entrants can purchase these inputs from incumbents more cheaply than they can build them. In addition, resale (unintegrated) entry carries substantially less risk, as sunk costs are largely avoided. As a result, while low UNE and wholesale prices may create the illusion of competition by enticing firms to enter the retail stage of the industry, they will, in fact, discourage the sort of entry that is ultimately required if effective competition is ever to materialize. This view, then, sees resale and facilities-leased entry as substitutes – we can encourage one only at the expense of the other.

Potential (and actual) entrants have countered this argument, pointing out that resale entry can help to pave the way for subsequent facility investments. Under this logic, *de novo*, vertically integrated entry into local exchange markets through replication of the ILEC's network facilities is unlikely due to the substantial sunk costs associated with such entry. Those sunk cost, however, can be at least partially nullified by prior successful resale entry. Specifically, non-integrated entry at the retail stage can provide entrants an established customer base which reduces the likelihood that these firms subsequently will be forced to exit. This reduced profitability of exit, in turn, lowers the risk associated with upstream, sunk-cost facilities investments. Thus, these parties view resale entry as a vehicle for promoting facilities-based entry. That is, the two forms of entry are seen as complements, not substitutes. To support this view, they point to experience in the long-distance market, where substantial resale entry preceded much of the facilities-based entry that subsequently occurred.

Which of these two competing arguments is correct? Unfortunately, that question cannot be answered definitively on *a priori* theoretical grounds alone. Our own view is that, as long as UNE (and other input) prices are not pushed below the forward-looking, long-run incremental costs of constructing and maintaining the underlying network

²⁹ SBC Ameritech Ohio's Application for Approval of Unbundled Network Element Prices, In the Matter of the Review of Ameritech Ohio's TELRIC Costs for Unbundled Network Elements Case No. 02-1280-TP-UNC, Filed May 31, 2002.

facilities (i.e., as long as these prices are not subsidized), the latter argument is more convincing. Once retail-stage entrants have established sufficient customer bases, incentives to integrate backward to self-supply essential network facilities will encourage these firms to undertake the additional investments needed to break the final source of monopoly power in this industry.

At the same time, even in the presence of resale entry, the wherewithal to break that monopoly may have to await some further technological advancement. If that is the case, then, regardless of the level at which UNE prices are set, we are unlikely to observe sufficient entry at the network level to bring about effective competition at all stages until technological change enables that which regulatory rules cannot.

4 Conclusion

Most economists would agree that incumbent monopolists are unlikely to voluntarily cede their monopoly power. In the telecommunications industry, the mere fact that a law was passed which embraced competition should not realistically have been expected to be met by the incumbent monopolists with a warm embrace of new entrants. Indeed, as should have been expected, ILECs have deployed a number of tactics (economic, regulatory and legal) to retain their control of the principal source of their monopoly power; namely, access to the local loop or the so-called last mile monopoly. These tactics have resulted in arguments, *inter alia*, that regulators have overstepped their jurisdiction in their zeal to foster competition; that the prices chosen by regulators are confiscatory and, therefore, illegal; and that even if the regulators have the authority to establish these rates, the applicability of the prices set should be imposed only under the most narrow interpretation of the Act.

In this paper, we have argued that the most fundamental lesson to be drawn from the Supreme Court's ruling is that Congress did not intend to continue to allow monopolists to remain entrenched in local exchange telephone markets. Rather, Congress intended that regulators would pursue fundamentally different and more activist policies designed to enable competition in local exchange markets. While a narrow interpretation of the most recent Supreme Court Opinion – that TELRIC pricing is legal and that regulators can require ILECs to sell UNEs as a bundled set – is welcome, the Opinion's more basic message is that regulators should perceive a green light, indeed a mandate, to implement more active policies designed to open local exchange markets to competition. In this regard, we have identified a number of critical issues that continue to confront new entrants in the wake of the Opinion and which will require that affirmative and decisive competition-enabling policies be adopted if local exchange competition is to take root anytime soon. Moreover, this must be accomplished in an environment in which the incumbents will, most certainly, continue to use whatever means are available to them to slow the erosion of their monopoly power.

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, DC 20549

FORM 10-K

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2002

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM _____ TO _____

COMMISSION FILE NUMBER: 0-24509

DOCKETED
FEB 12 2004

DOCUMENT

ALLEGIANCE TELECOM, INC.

(Exact Name of Registrant as Specified in its Charter)

DELAWARE
(State of Incorporation)
9201 NORTH CENTRAL EXPRESSWAY
DALLAS, TEXAS
(Address of Principal Executive Offices)

75-2721491
(IRS Employer Identification No.)

75231
(Zip Code)

(214) 261-7100

Registrant's Telephone Number, Including Area Code

Securities Registered Pursuant to Section 12(b) of the Act:
NONE

Securities Registered Pursuant to Section 12(g) of the Act:
COMMON STOCK, PAR VALUE \$.01

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Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that it was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the registrant's voting stock held by non-affiliates of the registrant as of June 28, 2002 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately \$158.6 million. Shares of common stock held by each executive officer and director have been excluded since those persons may under certain circumstances be deemed to be affiliates. This determination of executive officer or affiliate status is not necessarily a conclusive determination for other purposes.

The registrant has 124,778,137 number of shares of common stock outstanding as of March 26, 2003.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the annual meeting of stockholders for the fiscal year ended December 31, 2002, which will be filed with the SEC by April 30, 2003, are incorporated by reference into Part III of this Form 10-K.

TABLE OF CONTENTS
 TO
 ALLEGIANCE TELECOM, INC.'S ANNUAL REPORT ON FORM 10-K
 FOR THE YEAR ENDING DECEMBER 31, 2002

	<u>PAGE</u>
PART I	4
Item 1. Business	4
Item 2. Properties	29
Item 3. Legal Proceedings	29
Item 4. Submission of Matters to a Vote of Security Holders	29
PART II	30
Item 5. Market for Allegiance Telecom's Common Stock and Related Stockholder Matters	30
Item 6. Selected Financial Data	31
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	33
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	53
Item 8. Consolidated Financial Statements and Supplementary Data	54
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	54
PART III	55
Item 10. Directors and Executive Officers of Allegiance Telecom	55
Item 11. Executive Compensation	55
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	55
Item 13. Certain Relationships and Related Transactions	55
Item 14. Controls and Procedures	55
PART IV	57
Item 15. Exhibits, Financial Statement Schedules and Reports on Form 8-K	57
Signatures	58
Certifications	60
Financial Statements	F-1
Report of Independent Public Accountants on Financial Statement Schedule	S-1
Schedule II—Valuation and Qualifying Accounts	S-2
Index to Exhibits	E-1

INTRODUCTION

Allegiance Telecom, Inc. and its subsidiaries are generally referred to in this report as "we," "our company" or "Allegiance."

FORWARD-LOOKING STATEMENTS

Certain statements in this report constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, and we intend that such forward-looking statements be subject to the safe harbors created by this law. You generally can identify these statements by our use of forward-looking words such as "plans," "estimates," "believes," "expects," "may," "will," "should" or "anticipates" or the negative or other variations of such terms or comparable terminology, or by discussion of strategy that involve risks and uncertainties. We often use these types of statements when discussing our plans and strategies, our anticipation of revenues from designated markets, and statements regarding the development of our businesses, the markets for our services and products, our anticipated capital expenditures, operations support systems or changes in regulatory requirements and other statements contained in this report regarding matters that are not historical facts.

We caution you that these forward-looking statements are only predictions and estimates regarding future events and circumstances. We cannot assure you that we will achieve the future results reflected in these statements. The risks we face that could cause us not to achieve these results are many and include, but are not limited to, the risks discussed in this report as well as our ability to do the following in a timely manner, at reasonable costs and on satisfactory terms and conditions:

- successfully market our services to current and new customers;
- retain our customers;
- provide quality customer service;
- interconnect with and lease network elements from incumbent local carriers;
- electronically interface with incumbent local carriers;
- develop cooperative working relationships with other carriers;
- develop efficient operations support systems and other back office systems (including, but not limited to, provisioning and billing);
- successfully and efficiently transfer new customers to our service;
- identify, finance, complete and integrate suitable acquisitions;
- borrow under our credit facilities or borrow under alternative financing sources;
- comply with our credit facilities and other financing agreements;
- install, maintain and operate switching facilities and other network equipment;
- maintain efficient interconnection peering with other Internet backbone providers at reasonable rates;
- purchase equipment at reasonable prices; and
- obtain leased fiber optic line capacity, rights-of-way, building access rights and any required governmental authorizations, franchises and permits.

Regulatory, legislative and judicial developments could also cause actual results to differ materially from the future results reflected in such forward-looking statements. You should consider all of our subsequent written and oral forward-looking statements only in light of such cautionary statements. You should not place undue reliance on these forward-looking statements and you should understand that they represent management's view only as of the dates we make them.

PART I

ITEM 1. BUSINESS

OVERVIEW

We are a facilities-based national local exchange carrier that provides integrated telecommunications services to business, government and other institutional users in major metropolitan areas across the United States. We offer "one-stop shopping" for voice, data, and integrated communications services (including local, long distance, Internet, data colocation, web hosting and customer premise equipment sales and maintenance services), with convenient, integrated online billing, plus a single point of contact for sales and service. Our principal competitors are incumbent local exchange carriers (also known in the industry as "ILECs"), and to a lesser extent, long distance carriers as well as other integrated communications providers.

We seek to attract and retain customers by offering a full suite of turnkey product offerings and personalized customer care. The majority of our customers are small and medium-sized businesses that generally lack in-house telecommunications expertise and, more importantly, have historically been underserved by the ILECs. Although the number of lines serviced for each customer varies significantly, our primary focus is on the small to medium-sized business customer who has between 4 and 24 lines. We also offer services to large businesses (national customers with multiple locations), government organizations and other institutional users who typically obtain telecommunications services from a number of suppliers. With respect to these customers, we focus primarily on capturing a significant portion of their local exchange, intraLATA toll and data traffic. We also augment our core business strategy by selectively supplying wholesale services, including equipment colocation and facilities management services, to other carriers.

We began operations in late 1997 with an objective to grow rapidly and establish our company as a national communications provider covering the major metropolitan areas across the United States. By the end of 2001, we had completed the network rollout in our 36 targeted markets: Atlanta, Austin, Baltimore, Boston, Chicago, Cleveland, Dallas, Denver, Detroit, Fort Lauderdale, Fort Worth, Houston, Long Island, Los Angeles, Miami, Minneapolis/St. Paul, New York, Northern New Jersey, Oakland, Ontario/Riverside, CA, Orange County, Philadelphia, Phoenix, Pittsburgh, Portland, Sacramento, St. Louis, San Antonio, San Diego, San Francisco, San Jose, Seattle, Tampa, Washington, D.C., West Palm Beach/Boca Raton and White Plains, NY.

Alliance Telecom, Inc. was incorporated in April 1997 in the state of Delaware. Information about our company is available on our web site at: <http://www.algx.com>. We are not including the information contained on our website as a part of, or incorporating it by reference into, this annual report on Form 10-K. As of March 1, 2003, we are making available free of charge (other than an investor's own Internet access charges) through our website our annual report on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K, and amendments to these reports, on the same day after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission. In addition, we plan to disclose on our website, a copy of our code of ethics and any amendments to or waivers from that code that are required to be publicly disclosed pursuant to rules of the Securities and Exchange Commission.

PRODUCTS AND SERVICES

We offer a robust set of local, long distance, broadband/Internet access and Internet related services, bundled and carrier-oriented wholesale services, plus end-user equipment sales and maintenance services. This product and service set is targeted to meet the needs of small to medium-sized businesses, large businesses with multiple locations and Internet and network service providers.

Local Telephone Services. We offer local telephone services, including basic local voice services and vertical features, such as call forwarding, call waiting, and call transfer; advanced call management capabilities such as calling number identification/calling name identification, automatic call back and distinctive ringing; plus enhanced services such as voice mail and inside wire maintenance. We also provide PBX-oriented access services such as direct-inward-dialing and direct-outward-dialing over T1 Voice and ISDN Primary Rate Interface local access interfaces. We predominantly utilize our own switching and back office infrastructure to deliver these services, and lease local loops from the incumbent local exchange carrier to connect to customer locations.

Long Distance Services. We offer a full range of in-state, inter-state and international long distance services and calling plans to customers who purchase our local service. Our services include "1+" outbound calling, inbound toll free service and complementary services such as calling cards, operator assistance and conference calling, plus bundled branch-to-branch calling for multi-location customers who choose our Independence or Allegiance Select purchasing plans. These long distance services are provisioned via resale arrangements with several major interexchange carriers.

Broadband and Other Internet Services. We are a Tier 1 Internet access provider offering high-speed data transmission services, such as dedicated broadband Internet access (which allows large quantities of data to be transmitted at high-speeds over the Internet to and from the customer's premises), and wide area network interconnection (which allows file and resource sharing among geographically distributed workgroups). These services are offered at transmission speeds that range from 256Kb/s to 45Mb/s. In addition to Internet access, we offer domain name registration, web hosting, email, and colocation services. We utilize our own Tier 1 Internet backbone and back office infrastructure to deliver these services, and lease local loops from the incumbent local exchange carriers or other competitive access providers to connect to customer locations.

Bundled Services. We offer a variety of bundled solutions. These include voice/long distance promotional offers, as well as our standard Integrated Access ("IA") and Total Communications Options ("TCO") voice/long distance/Internet access offerings. Our flagship product is the Total Communications Options bundled voice/long distance/Internet access service offering. With the IA and TCO offerings, we provide customers with integrated voice and Internet access over a single broadband line with configurations ranging from 6 to 20 voice channels and 256 Kb/s to 1.2 Mb/s of Internet access.

Wholesale Services. We have pursued deal-driven opportunities to leverage our national voice and data backbone to provide wholesale network services to other regional and national service providers. Accordingly, we have deployed a versatile set of wholesale network services to enable swift capitalization of these opportunities. These services include: equipment colocation, managed modem ports, DS1, DS3 dedicated Internet access, Internet protocol ("IP") traffic aggregation and DS3/OC-N IP Transit.

CPE Sales and Service. Our Shared Technologies subsidiary is among the larger CPE maintenance service providers and CPE integrators and distributors in the U.S., with more than 5,000 customers nationwide in more than 7,000 locations. Shared Technologies sells, installs and maintains customer premise equipment ("CPE") including PBX and key telephone systems and other telephony and data equipment. Target customers include medium to large commercial businesses, national equipment accounts, governmental (federal and state) agencies and hospitals. The Shared Technologies business strategically enhances our present small to medium-sized and growing national accounts businesses as these customers seek suppliers capable of supplying a complete communications solution. With Shared Technologies, we offer a truly complete communications solution to corporate customers, including local and long distance voice and Internet access services, bolstered by a full suite of customer premise communications equipment and service offerings.

SALES, MARKETING AND CUSTOMERS

We have deployed a robust suite of services and products targeted to meet the needs of the nearly 3.3 million business prospects within our current national footprint. Through systematic analysis and segmentation of the overall market opportunity, we are able to precisely identify attractive customer prospects. Customer acquisition is accomplished, largely, through a consultative selling process that leverages this prospect information, our direct sales force and extended sales force (agents and partners), and our product and service set.

To best seize this sizeable opportunity, we have organized our sales organization to focus on distinct customer segments within our network footprint. Our retail sales teams and agents are focused on the small and medium-sized business customer segment, while our national accounts teams are focused on multi-location, national companies. Our commission plans and incentive programs for both channels are designed to reward and retain top performers, improve sales quality and productivity, and encourage strong customer relationships and customer retention.

Our retail teams are generally organized into teams of eight account executives, a sales manager and a sales support specialist. Additionally, the retail channel includes account consultants whose primary focus is retention and growth of key retail accounts. The number of retail teams and account consultants in each market is sized based upon available opportunity.

Our national accounts teams focus on multi-location, national companies, and are staffed with account managers who focus on relationship building with named accounts. National accounts teams are assisted by sales engineers, program managers, service coordinators, and account retention managers. These support personnel provide pre-and-post-sale customer support. Through consultative selling, we are able to offer one-stop shopping to these companies by leveraging our nationwide network footprint and robust product set. We believe that we have a competitive advantage within this customer segment because the product and service offerings of most of our competitors, including the ILECs, are regional, not national in scope.

To meet the objectives of (a) selling into our existing network capacity, and (b) methodically identifying opportunities within our network footprint, these teams use an internally developed, integrated territory and sales management system. This system identifies attractive prospects and existing customer up-sell/cross-sell opportunities, generates the associated leads, and manages the sales process. This system also provides an updated database for customers and prospects which facilitates a smooth transition in the event an account executive leaves our company. Central to the execution of this new system is the routine distribution of updated network capacity and marketing intelligence to our sales force. Through this system, we are positioned to systematically achieve close alignment of retail and national accounts execution to corporate goals and objectives.

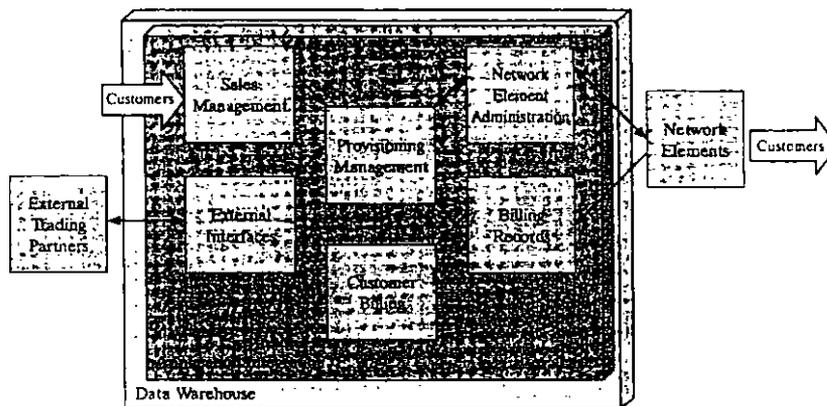
Our wholesale channel is organized by customer segment. This channel is staffed with account managers who have experience and relationships with large wholesale/corporate accounts. Wholesale account managers are supported by pre-sales engineers, program managers and service coordinators. These individuals provide pre- and post-sale account support.

We also have an active and growing network of agents and partners who complement our retail, national accounts and wholesale sales efforts. The role of the agent channel manager is to develop and grow relationships with local key system, PBX, and data integrators to drive additional sales of our products and services. Our national accounts and wholesale channels also employ a similar partner program aimed at creating and maintaining relationships with larger national resellers (e.g., MegaPath).

Our largest customer for the year ended December 31, 2002, Level 3 Communications, Inc. (as assignee to Genuity Solutions Inc.'s Integrated Network Solution Purchase Agreement with us), accounted for 12% of our total revenue in 2002.

INFORMATION SYSTEMS

Telephony Systems. Providing local voice and data services is a complex process that requires extensive coordination between the customer's old and new service providers. Most of our sales involve us working closely with the ILECs to efficiently move customers from the networks of the ILECs and other competitive carriers to ours. We believe that a key to success in our business is the ability to develop customized information systems and procedures that allow us to process large order volumes and provide the necessary customer service. As a result, we have devoted significant resources to this aspect of our operations. Our information systems are developed to enable us to enter, schedule, provision, and track a customer's order from the point of sale to the installation and testing of service. They are designed to interface with trouble management, inventory, billing, collection and customer service systems. We have invested substantial effort and funds into building our information systems to include these capabilities. The required high-level information requirements to support facilities-based services are depicted in the following figure and are briefly described below:



Order Management. We have created a custom application for order management that allows field sales to enter the orders and acts as the customer system of record. We have developed integration software for this system to interface with MetaSolv's order management software (used for provisioning workflow and management) to allow all customer information to flow electronically into MetaSolv's Telecom Business Solutions software with no manual re-entry of the data. A key element of both systems is the ability to monitor (in real time) the progress of orders through the system and to provide up-to-date data.

Provisioning Management. Our order management software, together with the proprietary processes developed by us to optimize the usefulness of this software, supports the design and management of the provisioning process, including circuit design and work flow management. The system has been designed to permit programming into the system of a standard schedule of tasks, which must be accomplished in order to initiate service to a customer, as well as the standard time intervals during which each such task must be completed. This way, when a standard order is selected in the system, each required task in the service initiation process can be efficiently managed to its assigned time interval.

External Interfaces (Electronic Bonding). Several external interfaces are required to initiate service for a customer. While some of these are automated via gateways from the order management software, the most important interfaces (those to the ILEC) have historically been accomplished via fax or email.

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For example, with a manual process, when a new customer requests a change in service from the ILEC to our company, we had to fax a local service request to the ILEC. An employee of the ILEC would manually input the information into the ILEC's system, thereby increasing the chance that an error may occur due to multiple data entries or misplaced faxes. As a result of the high incidence of error, activation of a new service order through a manual process takes much longer and the ILECs in some instances charge more for such manual orders. In an effort to make this process more efficient and less costly, we have electronically bonded with all of the regional Bell operating companies with respect to access service requests and local service requests in all of our markets. Electronic bonding allows us to access data from the ILEC, submit service requests electronically, reduce our costs and more quickly attend to errors in the local service request form since an order is bounced back immediately if the ILEC determines that there is a mistake on the form. We are currently implementing electronic bonding of pre-order information providing the customer service record and service address validation with the ILEC databases as well as electronic bonding for trouble ticket creation in the ILEC customer service applications.

Customer Billing and Billing Records. In 1997, we started business using a billing services provider. Over time, we have licensed and implemented an in-house billing system, SingleView from ADC-Saville Corporation, which has enabled us to build even tighter integration between billing and the rest of our operations support systems. Both billing systems are now fully flow-through automated for the core, high-volume products so that no manual re-entry into the billing systems is required.

Data Warehouse. We have built a corporate repository of key performance metrics that are housed in a central data warehouse. The warehouse incorporates all the business rules around managing these metrics and can be accessed via traditional reports (all delivered online from our company's Intranet), ad-hoc analysis tools and our customer relationship management system. Both operational and customer-centric data is stored in the data warehouse.

Application Integration. As critical as each component of the operational support system is, the integration between the systems is the key to success in providing highly scalable and cost efficient service. We have been heavily focused on integrating the various in-house and purchased applications. This integration employs a common platform enabling fast time-to-market and a central repository for all major business transactions. This has enabled us to reduce re-entry of data from system to system, thereby increasing productivity and quality, as well as reducing cycle times.

Other Systems. In addition to the information systems for our telephony services, we also have information systems for our Internet backbone services as well as our customer premise equipment sales and maintenance businesses.

Our Shared Technologies customer premise equipment sales and maintenance business provides an exclusive tool called KTWare which allows customers to have real time access to customer account information via the Internet. KTWare allows our Shared Technologies customers to place service and move/add/change orders online; view the status of service and move/add/change trouble tickets online; view any customer network alarms online; view monthly invoices online; view account team information and escalation procedures online; and access E-book services and download customer data management information. Our Shared Technologies business also provides the Guardian Services plan which allows customers to access Sourcebook, e-Book and Disaster Recovery services. Source Book provides a static snapshot of a customer's inventory and audit information associated with a customer's Nortel PBX equipment. E-Book services provide monthly on-line updates of any modifications made to a customer's back-up database of a customer's PBX configuration in case such information is lost as a result of a disaster. In addition, the Guardian Services program can provide Shared Technologies' customers traffic study reports, toll fraud and toll abuse analysis and user guide information. KTWare is highly integrated with the custom-built backoffice systems at Shared Technologies.

In addition to our telephony backoffice systems and systems at Shared Technologies, we also operate legacy support systems associated with our Internet backbone line of business. These systems are developed to deal with the higher capacity, lower volume and more customized product provisioning processes associated with high capacity Internet backbone and broadband services.

As we bring the Internet backbone and the Shared Technologies businesses into tighter integration with our core offerings, systems integration projects will need to be instigated and completed to ensure overall business process integration.

NETWORK ARCHITECTURE

Our nationwide network is controlled and monitored by our network operations control centers located in Dallas, Texas and Greenbelt, Maryland. We have locally-based technicians to maintain each switch and other telecommunications equipment, as well as centrally-based engineers to ensure that the equipment is designed properly and that the hardware and software components are current.

Telephony Network. An important element of our telephony network is the installation of Lucent Series 5ESS[®]-2000 digital switches and related equipment at a central location in each market. As of December 31, 2002, we had deployed 31 Lucent Series 5ESS[®]-2000 digital switches to serve our 36 markets.

We lease local network transport facilities from the ILEC and/or one or more competitive access providers in order to connect our switch(es) to all ILEC tandem offices and major ILEC central offices serving the central business district and outlying areas of business concentrations in each market. In order to reach our customer base, we place integrated digital loop carrier systems and related equipment in each of the ILEC central offices in which we are colocated. As each customer is signed up, we lease unbundled local loops from the ILEC to deliver our services to the customer. Initially, leasing local network transport facilities allows us to begin operations in a new market more quickly and generally at a lower upfront cost than building these facilities; however, we may choose to purchase fiber technology such as dark fiber, as and when we experience sufficient growth in our traffic volume and customer base or as other factors make fiber technology more attractive. "Dark fiber" means fiber that does not have the electronics at either end to transmit information and is "dark" because no light is transmitted through it until the electronics are installed. We have already implemented this next phase by acquiring indefeasible rights to use fiber from various vendors in 24 of our markets. Building fiber rings through the purchase of dark fiber provides us with a reliable, diverse and robust connection to many of our central office locations throughout a market. As of December 31, 2002, we had dedicated fiber rings in the following 24 markets: Austin, Baltimore, Boston, Chicago, Dallas, Denver, Detroit, Ft. Worth, Houston, Long Island, Los Angeles, New York City, Northern New Jersey, Philadelphia, Phoenix, Pittsburgh, Portland, San Antonio, San Diego, San Francisco, St. Louis, Seattle, Washington, D.C. and White Plains. We also have acquired long-haul point to point fiber connectivity between several markets in the northeast corridor. We are utilizing this infrastructure to carry our intercity IP backbone and internal network traffic, and using this fiber generally provides us with an improved cost position.

Data Network. Our fully redundant, multi-protocol label switching based backbone is made up primarily of 2.5 Gb/s optical wavelength transport, with OC3C and DS3 circuits serving smaller markets. Multiple paths and the latest switching and routing technology support every node. To provide the fastest, most reliable Internet access, we are privately peered with the largest Tier 1 Internet backbone providers, supplemented by private peering relationships with many smaller regional providers. As of December 31, 2002, we operated 150 core routers. With 12 GigaPops (which is a gigabit point of presence, a network access point that supports data transfer rates of at least 1 Gb/s) throughout the country, we minimize the number of hops (jumps from city to city) from point A to

point B. That efficiency allows us to provide better availability, lower latency and lower packet loss that you would expect from a Tier 1 Internet access provider.

REGULATION

Our business is subject to federal, state and local regulation.

Federal Regulation. The Federal Communications Commission ("FCC") regulates interstate and international telecommunications services, including the use of local telephone facilities to originate and terminate interstate and international calls. We provide such services on a common carrier basis. The FCC imposes regulations on common carriers such as the incumbent local carriers that have some degree of market power as well as carriers without market power, such as our company. The FCC requires common carriers to receive an authorization to construct and operate telecommunications facilities, and to provide or resell telecommunications services, between the United States and international points. Under the Telecommunications Act of 1996, any entity, including cable television companies and electric and gas utilities, may enter any telecommunications market, subject to reasonable state regulation of safety, quality and consumer protection. Since the passage of the Telecommunications Act of 1996, the FCC and the states have adopted rules and decisions to implement the terms of that Act. Those rules and decisions have been subject to numerous legal challenges and appeals which has created a climate of uncertainty.

The Telecommunications Act of 1996 is intended to increase competition. It was designed to open the local services market by requiring incumbent local carriers to permit interconnection to their networks and establishing incumbent local carriers' obligations with respect to:

Reciprocal Compensation. Requires all local exchange carriers to complete calls originated by competing local exchange carriers under reciprocal arrangements at prices set by the FCC, state public utility commissions or negotiated prices.

Resale. Requires all incumbent local carriers and competitive local carriers to permit resale of their telecommunications services without unreasonable restrictions or conditions. In addition, incumbent local carriers are required to offer wholesale versions of all retail services to other telecommunications carriers for resale at discounted rates, based on the costs avoided by the incumbent local carrier in the wholesale offering.

Interconnection. Requires all incumbent local carriers and competitive local carriers to permit their competitors to interconnect with their facilities. Requires all incumbent local carriers to permit interconnection at any technically feasible point within their networks, on nondiscriminatory terms, at prices based on cost, which may include a reasonable profit. At the option of the carrier seeking interconnection, colocation of the requesting carrier's equipment in the incumbent local carriers' premises must be allowed, except where an incumbent local carrier can demonstrate space limitations or other technical impediments to colocation.

Unbundled Access. Requires all incumbent local carriers to provide nondiscriminatory access to unbundled network elements ("UNEs") including network facilities, equipment, features, functions and capabilities, at any technically feasible point within their networks, on nondiscriminatory terms, at prices based on the ILEC's forward looking costs, which may include a reasonable profit.

Number Portability. Requires all incumbent local carriers and competitive local carriers to permit users of telecommunications services to retain existing telephone numbers without impairment of quality, reliability or convenience when switching from one telecommunications carrier to another.

Dialing Parity. Requires all incumbent local carriers and competitive local carriers to provide "1+" equal access to competing providers of telephone exchange service and toll service, and to

provide nondiscriminatory access to telephone numbers, operator services, directory assistance and directory listing, with no unreasonable dialing delays.

Access to Rights-of-Way. Requires all incumbent local carriers and competitive local carriers to permit competing carriers access to poles, ducts, conduits and rights-of-way at regulated prices.

Incumbent local carriers are required to negotiate in good faith with other carriers requesting any or all of the above arrangements. If the negotiating carriers cannot reach agreement within a prescribed time, either carrier may request binding arbitration of the disputed issues by the state regulatory commission.

The FCC's rules implementing the incumbent local carrier interconnection obligations described above have been the subject of considerable litigation. On July 18, 1997, the United States Court of Appeals for the Eighth Circuit narrowly interpreted the FCC's power to prescribe and enforce rules implementing the Telecommunications Act of 1996. On January 25, 1999, the United States Supreme Court reversed the Eighth Circuit decision and reaffirmed the FCC's broad authority to issue rules implementing the Telecommunications Act of 1996, although it did vacate a rule determining which network elements the incumbent local carriers must provide to competitors on an unbundled basis. On November 5, 1999, the FCC issued revised rules that largely reaffirmed, and in some respects expanded, the duty of incumbent carriers to offer unbundled network elements and stated its intention to review every three years the unbundling obligations of incumbent carriers. The Court of Appeals for the District of Columbia Circuit remanded, but did not vacate, the FCC's order adopting the revised rules on May 24, 2002. The FCC requested rehearing of the Court's decision, but its request was denied. The Court did, however, stay issuance of the mandate until February 20, 2003 to give the FCC an opportunity to issue an order in its triennial review of the incumbent carriers' unbundling obligations. On February 20, 2003, the FCC announced its decision in the triennial review proceeding. Although the text of the decision has not yet been released, our understanding of the decision is as follows.

- In general, the FCC's triennial review order revised its standard of review for determining when unbundled network elements are made available to competitors. Specifically, the FCC's revised standard recognized the benefits of facilities-based competition and confirmed that continued provision of UNEs is essential to the growth of facilities-based networks such as those operated by us.
- With respect to unbundled switching, the FCC adopted a process whereby the state public utilities commission will consider whether competitors are impaired if they do not have access to Bell companies' switch services on a UNE basis under the regulatory construct known as unbundled network element platform ("UNE-P"). We expect that this state review will result in a review of the hot cut process (transferring a customer from the Bell's systems to our systems) and could potentially enhance our ability to transition new customers to our networks, although we need to see the FCC's specific written order to determine if this is significant.
- The decision also confirms that facilities-based competitive carriers like us can continue to obtain access to loops in almost all markets. The FCC also clarified the conditions under which the Bell companies must make available unbundled loops for competitors. This should reduce the time it takes us to install a customer's services, especially in certain ILEC areas.
- On transport issues, the FCC adopted a standard proposed by us whereby transport will be taken off the UNE list on a route-specific basis when there are two competitive wholesale providers of transport or three self-provisioned transport links by non-ILEC sources. This approach is consistent with our smart-build strategy for local transport of using ILEC facilities only as a transition to dark fiber or the facilities of other providers.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange act of 1934, Allegiance Telecom, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 31, 2003.

ALLEGIANCE TELECOM, INC.

By: /s/ ROYCE J. HOLLAND
Royce J. Holland,
*Chairman of the Board and
Chief Executive Officer*

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Mark B. Tresnowski and Annie S. Terry, and each of them, each with full power of substitution and resubstitution, for such person and in his name, place and stead, in any and all capacities, to sign any and all amendments to this report and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto each of said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of Allegiance Telecom, Inc. and in the capacities indicated on March 31, 2003.

<u>SIGNATURE</u>	<u>CAPACITY</u>
<u>/s/ ROYCE J. HOLLAND</u> Royce J. Holland	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
<u>/s/ C. DANIEL YOST</u> C. Daniel Yost	President, Chief Operating Officer and Director
<u>/s/ THOMAS M. LORD</u> Thomas M. Lord	Executive Vice President, Chief Financial Officer and Director (Principal Financial Officer)
<u>/s/ G. CLAY MYERS</u> G. Clay Myers	Senior Vice President of Finance and Accounting (Principal Accounting Officer)

/s/ ANTHONY J. PARELLA
Anthony J. Parella President, Telecom and Retail Services and Director

/s/ JAMES E. CRAWFORD, III
James E. Crawford, III Director

/s/ PAUL J. FINNEGAN
Paul J. Finnegan Director

/s/ JACOB J. GOLDBERG
Jacob J. Goldberg Director

/s/ REED E. HUNDT
Reed E. Hundt Director

/s/ ANDREW D. LIPMAN
Andrew D. Lipman Director

/s/ JAMES N. PERRY, JR.
James N. Perry, Jr. Director

CERTIFICATION

I, Royce J. Holland, certify that:

1. I have reviewed this annual report on Form 10-K of Allegiance Telecom, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and have:
 - a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: March 31, 2003

/s/ ROYCE J. HOLLAND

Royce J. Holland, *Chairman and Chief Executive Officer*

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, DC 20549
FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2001

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM _____ TO _____

COMMISSION FILE NUMBER: 0-24509

ALLEGIANCE TELECOM, INC.

(Exact Name of Registrant as Specified in its Charter)

DELAWARE
(State of Incorporation)

9201 NORTH CENTRAL EXPRESSWAY
DALLAS, TEXAS
(Address of Principal Executive Offices)

DOCUMENT

75-2721491
(IRS Employer Identification No.)

75231
(Zip Code)

(214) 261-7100

Registrant's Telephone Number, Including Area Code

NONE

Securities Registered Pursuant to Section 12(b) of the Act

COMMON STOCK, PAR VALUE \$.01, QUOTED ON THE NASDAQ NATIONAL MARKET

Securities Registered Pursuant to Section 12(g) of the Act

Indicate by check mark whether Allegiance Telecom (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that it was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Allegiance Telecom's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Based on the closing sales price on the Nasdaq National Market on March 27, 2002 of \$3.12, the aggregate market value of our voting stock held by non-affiliates on such date was approximately \$259.8 million. Shares of common stock held by directors and by each person who owns or may be deemed to own 10% or more of our outstanding common stock have been excluded, since such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes. As of March 27, 2002, Allegiance Telecom, Inc. had 116,023,655 shares of common stock issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

- Portions of Allegiance Telecom's definitive proxy statement for the annual meeting of stockholders for the fiscal year ended December 31, 2001, which will be filed with the SEC by April 30, 2002, are incorporated by reference into Part III of this Form 10-K.

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PART I

ITEM 1. *Business*

OVERVIEW

Allegiance Telecom, Inc. is a leading competitive provider of telecommunications services to small and medium-sized businesses in major metropolitan areas across the United States. We offer an integrated set of telecommunications services including local, long distance, data and a full suite of Internet services. Our principal competitors are the established telephone companies, such as the regional Bell operating companies, as well as other integrated communications providers.

Our business plan covers 36 of the largest metropolitan areas in the United States. We completed our network rollout during 2001, with all 36 targeted markets operational as of December 31, 2001. These markets are Atlanta, Austin, Baltimore, Boston, Chicago, Cleveland, Dallas, Denver, Detroit, Fort Lauderdale, Fort Worth, Houston, Long Island, Los Angeles, Miami, Minneapolis/St. Paul, New York, Northern New Jersey, Oakland, Ontario/Riverside CA, Orange County, Philadelphia, Phoenix, Pittsburgh, Portland, Sacramento, St. Louis, San Antonio, San Diego, San Francisco, San Jose, Seattle, Tampa, Washington, D.C., West Palm Beach/Boca Raton and White Plains NY. With a strategy focusing on the central business districts and suburban commercial districts in these areas, we plan to address a majority of the non-residential lines in most of our targeted markets. We estimate that our 36 target markets include over 30 million non-residential lines, representing approximately 57% of the total non-residential lines in the United States which provide us with a large base of potential customers. The number of non-residential lines that we actually service will depend on our ability to attract, service and retain customers.

We were formed in 1997 by a management team of industry veterans to take advantage of the opportunity for local communications competition that the Telecommunications Act of 1996 was designed to create. Since we formed our company, we have focused on building a reliable nationwide network based on proven technologies, a strong nationwide direct sales force and efficient information processing systems to support our operations. We believe that by doing so we can position ourselves to compete effectively with the monopoly local telephone companies, also referred to as "incumbent local carriers," most of whom do not address our customers with direct sales efforts and are burdened by legacy operational support systems.

The Telecommunications Act of 1996 was enacted to open the local telecommunications market to competition. This law provides that companies designated as "competitive local exchange carriers" would have the right to lease various essential elements of the networks owned by the monopoly local telephone companies. These established telephone companies own what is commonly referred to as the "last mile" of the communications network, meaning the portion of the network connecting central office telephone switches to end user customers. Duplicating this portion of the network would require far more capital investment than any new competitor could justify, especially when trying to serve small and medium-sized business customers. Thus, prior to the enactment of this legislation, local competition generally existed only with respect to very large businesses, where the potential revenue from a single customer or group of customers in a single building could justify the construction of direct connections to the customer premises. The requirement to make essential elements of the existing networks available to competitors embodied in the Telecommunications Act of 1996, therefore, should enable competitive carriers to more efficiently provide local telecommunications services to small and medium-sized business customers located throughout a metropolitan area.

As we have developed our local networks to service end user customers, we have also attempted to capitalize on our expertise and investment in the part of the telecommunications network that connects directly to customers, by maximizing the use of our network assets. In building a nationwide network to serve end user customers, we have fixed costs in many assets that are underutilized during those times

of day when our small to medium-sized business customers are not placing or receiving as many voice and data calls. We have taken advantage of this underutilization by providing network solutions to other service providers, primarily the leading national providers. These national network providers also have end user customers but do not have the facilities and expertise to directly access these customers through the last mile of the communications network. Many of these providers focus on the residential Internet access market. We believe that in many cases, the traffic patterns in that market generally complement those of our end user business customers, making this business an incremental revenue opportunity that leverages our fixed network assets.

The other way we serve our customers and leverage our focus on the small and medium-sized business end users is by providing innovative applications of existing technologies. An example is our Integrated Access Service which delivers high-speed, "always on" Internet access and allows multiple voice, data and Internet combinations over a single line. In addition, we have developed electronic commerce products designed to help these customers market their products and services on-line, improve communication and collaboration and increase productivity. While these types of products and solutions are readily available to larger business customers that can afford to devote the resources necessary to develop and customize them internally, we believe that smaller business customers are demanding easy to use electronic commerce solutions that allow them, with minimal design and development costs, to market products on-line and increase their own productivity.

OUR SERVICES

We tailor our service offerings to meet the specific needs of the small and medium-sized business customers. Our strategy is to use our close contact with customers through our direct sales force and customer care personnel to enable us to tailor service offerings to meet customers' needs and to creatively package services to provide "one-stop shopping" solutions for those customers. For example, we offer local and long distance voice services together with Internet access in all of our markets, enabling customers to look to a single provider for their communications needs.

Local Telephone Services. We offer local telephone services, including basic local voice services as well as other features such as:

- call forwarding;
- call waiting;
- caller number identification and/or calling name identification;
- call transfer;
- automatic call back;
- distinctive ringing;
- station-to-station four-digit dialing without a private branch exchange; and
- voice mail.

By offering basic local voice services, we receive originating and terminating access revenues for long distance calls placed or received by our local service customers. We offer local telephone services over traditional copper wire lines as well as over various high capacity lines. We also offer our "Integrated Access Service" which is an integrated voice and data offering over a single high capacity line.

Long Distance Services. We offer a full range of domestic and international long distance services. These services include "1+" outbound calling, inbound toll free service and such complementary services as calling cards, operator assistance and conference calling. Because the primary focus of our

direct sales force is selling local services or complete communications solutions, we offer long distance services only to customers who also purchase local service from us.

Broadband and Other Internet Services. We offer high speed data transmission services, such as:

- dedicated broadband Internet access, also known as "wideband," which allows large quantities of data to be transmitted over the Internet to and from the customer's premises;
- wide area network interconnection, which are remote computer communications systems that allow file sharing among geographically distributed workgroups; wide area networks typically use links provided by local telephone companies; and
- Internet Protocol aggregation service that allows service providers, enterprise networks and other large customers to expand in existing markets and move into new markets with minimal capital cost by allowing them to aggregate Internet traffic at a single point of access into the network and distribute in any of our 36 U.S. markets.

Many of our current and future target small and medium-sized business customers do not use data or Internet access services in their businesses. If the current trend of conducting business electronically over the Internet continues, we expect that small and medium-sized businesses will increasingly find the need to purchase Internet access services. To facilitate this expected trend and to assist our customers in taking advantage of the opportunities offered by electronic commerce, we have continued to expand our Internet access services. In addition to Internet access, our basic Internet access package includes domain name registration, email accounts and email storage space. We have also invested in acquiring and growing our website hosting business that allows our customers to maintain a website that can be located on our computers and supported and maintained by our web hosting personnel. Our web hosting packages include user-friendly tools that help customers design their own web site without needing any extensive programming skills and electronic commerce services that make it easy to set up an online retail presence, complete with secure online ordering, shopping cart and credit card processing capabilities.

We believe that with the recent growth in demand for Internet services, many Internet service providers are unable to obtain network capacity rapidly enough to meet customer demand and eliminate network congestion problems, especially at the edge of the communications network where we have focused our business. We have attempted to address this demand by offering local services to Internet service providers, primarily the national service providers. These services include the management of local telephone numbers, the provision and management of modems and the provision of Internet access.

Our ability to offer competitive broadband services depends on the continuation of the current regulatory and legislative structure that allows us to take advantage of the unbundling requirements of the Telecommunications Act of 1996 for both voice and data services. In recent months, the emphasis on reconsidering the treatment of broadband data services under applicable law and regulations has increased and there are now both legislative and regulatory initiatives that could severely limit our ability to offer broadband services in an efficient and profitable manner. These initiatives are discussed in more detail under the "Risk Factors" discussion below.

Bundled Services. We offer a variety of services in which we bundle local, long distance and data services. With our Total Communications Options offering, we provide customers with voice and Internet access over a single line with up to 20 voice channels and up to 1 Mps of Internet access. With our Select Offering, we provide customers with multiple locations with free nationwide calling between their locations that subscribe to Allegiance local and long distance service. We believe our ability to offer bundled services generally and on a nationwide basis in particular allows us to offer services that the incumbent local exchange carriers do not offer. We believe that as the incumbent local exchange

carriers obtain permission to offer long distance services in more and more states, our competitive advantage in offering bundled services will diminish.

SALES AND CUSTOMER CARE

We offer our services primarily to small and medium-sized businesses. Unlike large corporate, government, or other institutional users, small and medium-sized businesses often have no in-house telecommunications manager. Based on our management's previous experience, we believe that a direct sales and customer care program focusing on complete, "one-stop shopping" solutions offers a competitive advantage in serving this type of customer's total communications needs.

Although the vast majority of our sales force is focused primarily on the small and medium-sized business segment, we also provide services to large businesses such as national retail chain stores and to other telecommunications service providers such as Internet service providers. As a result, we have organized our sales organization to serve each of these three different types of customers.

For the small and medium-sized business customer market, we organize account executives into teams with a team manager and a sales support specialist for each market. These teams use telemarketing to "qualify" leads and set up initial appointments. We closely manage the number of sales calls that account executives make per week, with the goal of eventually calling on every prospective business customer in an account executive's sales territory. We use commission plans and incentive programs to reward and retain the top performers and encourage strong customer relationships. The sales team managers for each market report to a city sales vice president who in turn reports to a regional vice president.

Our national account teams focus on multi-location, national companies. Through consultative selling, we are able to offer these companies one-stop shopping by leveraging our nationwide network footprint. We believe we have a competitive advantage with respect to this opportunity because the regional Bell operating companies to date have not offered many services beyond the regions in which they benefit from near monopoly market share.

When selling to other communications providers such as Internet service providers, our direct sales force of experienced high-end sales representatives work closely with these other providers to address their needs to enhance the function and efficiency of their own networks. These sales representatives are supported by our pre-sales engineers, program managers and service coordinators, who proactively manage the account before and after the sale.

The productivity of our sales force is recorded and made available on our internal computer systems on a continuous basis. This allows our management to track sales volumes by market, by sales team and by sales representative at any time. We believe the development of this system has enabled us to more effectively manage our sales force.

In our customer care center in Dallas, Texas, we employ customer care representatives who receive calls from customers experiencing service or billing problems. These representatives open trouble tickets for each customer care issue. These trouble tickets provide a written record of the nature of the customer's issue and allow us to more efficiently address customer concerns and analyze the root cause of any problems that may occur in our network. Our customer care representatives are trained to proactively resolve customer service problems. If the front-line customer care representatives are unable to do so, they escalate the issue to our national repair center team that specializes in handling more complex service issues. The efforts of our customer care function are enhanced by our state-of-the-art network operations control centers, located in Dallas and in Greenbelt, Maryland. Through these centers, we monitor the performance of our network at all times so that we are in a position to maintain a high level of network performance. Our customer care personnel are also trained in working with the customer care organizations of other carriers such as the established local telephone

companies. This coordination is essential to successful customer service because our customers' service issues can be caused by problems on the networks of other carriers.

INFORMATION SYSTEMS AND COMPLETING CUSTOMER ORDERS

Providing local voice and data services is a complex process that requires extensive coordination between the customer's old and new service providers. Our primary competitors are the incumbent local carriers, so most of our sales involve us working closely with these companies to efficiently move customers from their networks to ours. We believe that a key to success in our business is the ability to develop customized information systems and procedures that allow us to process large order volumes and provide the necessary customer service. As a result, we have devoted significant resources to this aspect of our operations. Our systems must enable us to enter, schedule, provision, and track a customer's order from the point of sale to the installation and testing of service. They must also permit us to interface with trouble management, inventory, billing, collection and customer service systems. We have invested substantial effort and funds into building our systems to include these capabilities.

NETWORK ARCHITECTURE

An important element of our strategy is to install Lucent Series 5ESS(R)-2000 digital switches, an electronic device used to connect two separate entities, and related equipment at a central location in each market. As of December 31, 2001, we had deployed 31 switches to serve 36 markets. We have also deployed new technology called "softswitches" to complement our existing network infrastructure of digital switches, which is based on a traditional circuit-switched technology. Softswitch technology allows us to use "packet switching;" we believe that packet switching will allow for greater capital efficiencies and rapid deployment of enhanced services required by our customers. Circuit switching is a reliable technology in which the entire circuit is dedicated to the transmission of a single user's phone call and as a result, the circuit cannot be used by anyone else until the call ends. With packet switching, much more traffic can move over a line simultaneously.

Our nationwide network is controlled and monitored by a state-of-the-art network operations control centers located in Dallas and Greenbelt, Maryland. We also have locally based switch engineers and technicians to manage each switch and other telecommunications equipment.

We lease local network facilities from established telephone companies to connect our switches to the established telephone companies' wire centers serving major areas of business concentrations in each market. Initially leasing these facilities allows us to begin operations in a new market more quickly and generally at a lower upfront cost than building these facilities; however, we may choose to purchase fiber technology such as dark fiber, as and when we experience sufficient growth in our traffic volume and customer base or as other factors make fiber technology more attractive. "Dark fiber" is a type of fiber where no light is transmitted through it while it is unused. We have already implemented this next phase by acquiring indefeasible rights to use fiber from various vendors in 24 of our markets. These fiber rings are expected to provide us with a reliable, diverse and robust connection to many of our central office locations throughout a market. As of December 31, 2001, we had dedicated fiber rings in operation in 21 markets including Austin, Boston, Chicago, Dallas, Denver, Ft. Worth, Houston, Long Island, Los Angeles, New York City, Northern New Jersey, Philadelphia, Phoenix, Pittsburgh, Portland, San Antonio, San Diego, St. Louis, Seattle, Washington, D.C., and White Plains.

IMPLEMENTATION OF SERVICES

To offer services in a market, we generally must secure certification from the state regulator and typically must file tariffs or price lists for the services that we will offer. The certification process varies from state to state; however, the fundamental requirements are largely the same. State regulators require new entrants to demonstrate that they have secured adequate financial resources to establish

and maintain good customer service. New entrants must also show that they possess the knowledge and ability required to establish and operate a telecommunications network.

Before providing local service, a new entrant must negotiate and execute an interconnection agreement with the incumbent local carrier. While such agreements can be voluminous and may take months to negotiate, most of the key interconnection issues have now been thoroughly addressed and commissions in most states have ruled on arbitrations between the incumbent carriers and new entrants. However, interconnection rates and conditions may be subject to change as the result of future state or federal commission actions or other changes in the regulatory environment. Under a United States Supreme Court ruling, new entrants may adopt either all or portions of an interconnection agreement already entered into by the incumbent carrier and another carrier. We have selectively adopted this approach to enable us to enter markets quickly, while at the same time preserving our right to replace the adopted agreement with a customized interconnection agreement that can be negotiated once service has already been established.

While such interconnection agreements include key terms and prices for interconnection, a significant joint implementation effort must be made with the incumbent carrier to establish operationally efficient and reliable traffic interchange arrangements. Such arrangements must include those between our network and the facilities of other service providers as well as public service agencies. For example, we worked closely with Southwestern Bell to devise and implement an efficient 911 call routing plan that will meet the requirements of each individual 911 service bureau in Southwestern Bell areas that we will serve using our own switches. We routinely meet with key personnel from 911 service bureaus to obtain their acceptance and to establish dates for circuit establishment and joint testing. We have entered into interconnection agreements with the incumbent carriers in each of the states in which our current geographic markets are located.

REGULATION

Our business is subject to federal, state and local regulation.

Federal Regulation

The FCC regulates interstate and international telecommunications services, including the use of local telephone facilities to originate and terminate interstate and international calls. We provide such services on a common carrier basis. The FCC imposes certain regulations on common carriers such as the incumbent local carriers that have some degree of market power. The FCC requires common carriers to receive an authorization to construct and operate telecommunications facilities, and to provide or resell telecommunications services, between the United States and international points.

Under the Telecommunications Act, any entity, including cable television companies and electric and gas utilities, may enter any telecommunications market, subject to reasonable state regulation of safety, quality and consumer protection. Because implementation of the Telecommunications Act is subject to numerous federal and state policy rulemaking proceedings and judicial review there is still uncertainty as to what impact such legislation will have on us.

The Telecommunications Act is intended to increase competition. This Act was designed to open the local services market by requiring incumbent local carriers to permit interconnection to their networks and establishing incumbent local carriers' obligations with respect to:

Reciprocal Compensation. Requires all local exchange carriers to complete calls originated by competing local exchange carriers under reciprocal arrangements at prices based on tariffs or negotiated prices.

Resale. Requires all incumbent local carriers and competitive local carriers to permit resale of their telecommunications services without unreasonable restrictions or conditions. In addition,

incumbent local carriers are required to offer wholesale versions of all retail services to other telecommunications carriers for resale at discounted rates, based on the costs avoided by the incumbent local carrier in the wholesale offering.

Interconnection. Requires all incumbent local carriers and competitive local carriers to permit their competitors to interconnect with their facilities. Requires all incumbent local carriers to permit interconnection at any technically feasible point within their networks, on nondiscriminatory terms, at prices based on cost, which may include a reasonable profit. At the option of the carrier seeking interconnection, colocation of the requesting carrier's equipment in the incumbent local carriers' premises must be offered, except where an incumbent local carrier can demonstrate space limitations or other technical impediments to colocation.

Unbundled Access. Requires all incumbent local carriers to provide nondiscriminatory access to unbundled network elements including, network facilities, equipment, features, functions, and capabilities, at any technically feasible point within their networks, on nondiscriminatory terms, at prices based on cost, which may include a reasonable profit.

Number Portability. Requires all incumbent local carriers and competitive local carriers to permit users of telecommunications services to retain existing telephone numbers without impairment of quality, reliability or convenience when switching from one telecommunications carrier to another.

Dialing Parity. Requires all incumbent local carriers and competitive local carriers to provide "1+" equal access to competing providers of telephone exchange service and toll service, and to provide nondiscriminatory access to telephone numbers, operator services, directory assistance, and directory listing, with no unreasonable dialing delays.

Access to Rights-of-Way. Requires all incumbent local carriers and competitive local carriers to permit competing carriers access to poles, ducts, conduits and rights-of-way at regulated prices.

Incumbent local carriers are required to negotiate in good faith with carriers requesting any or all of the above arrangements. If the negotiating carriers cannot reach agreement within a prescribed time, either carrier may request binding arbitration of the disputed issues by the state regulatory commission. Where an agreement has not been reached, incumbent local carriers remain subject to interconnection obligations established by the FCC and state telecommunication regulatory commissions.

The FCC's rules implementing the incumbent local carrier interconnection obligations described above have been the subject of considerable litigation. On July 18, 1997, the United States Court of Appeals for the Eighth Circuit narrowly interpreted the FCC's power to prescribe and enforce rules implementing the Telecommunications Act. On January 25, 1999, the United States Supreme Court reversed the Eighth Circuit decision and reaffirmed the FCC's broad authority to issue rules implementing the Telecommunications Act, although it did vacate a rule determining which network elements the incumbent local carriers must provide to competitors on an unbundled basis. On November 5, 1999, the FCC issued revised rules that largely reaffirmed, and in some respects expanded, the duty of incumbent carriers to offer unbundled network elements and stated its intention to review every three years the unbundling obligations of incumbent carriers. These rules were appealed and that appeal is still pending before the Court of Appeals for the District of Columbia Circuit.

On December 9, 1999, the FCC released an order requiring the incumbent carriers to offer "line sharing" arrangements that permit competitors like us to offer digital subscriber line, also known as DSL service-over the same copper wires used by the incumbent to provide voice service. The FCC's ruling has been appealed and that appeal is pending before the U.S. Court of Appeals for the District of Columbia Circuit. We cannot predict the outcome of the appeal but do not believe it will have a material impact on our current business because we do not rely on line sharing in any material way.

On March 17, 2000, the U.S. Court of Appeals for the District of Columbia Circuit vacated certain FCC rules relating to colocation of competitors' equipment in incumbent local carrier central offices. This decision required the FCC to limit colocation to equipment that is "necessary" for interconnection with the incumbent local carrier or access to the incumbent local carrier's unbundled network elements. On August 8, 2001, the FCC issued revised colocation rules on remand that reaffirmed that all of the equipment we currently place in colocation arrangements is necessary for these purposes. The FCC's decision has been appealed and that appeal is pending before the U.S. Court of Appeals for the District of Columbia.

On February 15, 2002, the FCC released a Notice of Proposed Rulemaking requesting comment on the future regulatory treatment of wireline broadband Internet access services. The FCC has tentatively concluded that when an entity provides wireline broadband Internet access over its own transmission facilities, the service should be classified as an information service, rather than a telecommunications service. If the FCC adopts this conclusion, wire-line broadband Internet access services provided by incumbent carriers would be subject to substantially less regulation. Allegiance purchases unbundled transmission facilities from incumbent carriers to provide our own broadband Internet access service. While we cannot predict the outcome of this proceeding, any curtailment of the incumbent carriers' unbundling obligations for the transmission component of broadband Internet access services could materially increase our costs and adversely affect our ability to compete effectively with the incumbent carriers' broadband Internet access products.

On February 27, 2002, the U.S. House of Representatives passed H.R. 1542, the Tauzin-Dingell bill, by a 273-157 vote. The current Telecommunications Act requires the incumbent carriers to lease access to their high-speed networks to their competitors at wholesale rates. Under the Tauzin-Dingell bill, competitors are still able to purchase access to unbundled copper loops and to lease access to the incumbent carriers' high-speed networks. However, the bill classifies high-speed services as "nondominant," which would relieve the incumbents of the obligation to price such access at cost-based rates. The bill also enables the incumbent carriers potentially to limit competitors' access to their networks, by eliminating the obligation to provide unbundled access to certain technologies, including fiber lines and packet switches, and to provide colocation space within remote terminals. Finally, the bill allows the regional Bell companies to immediately enter the long distance market for data without first demonstrating that their local voice markets are open to competition. Because no action has yet been taken on the bill in the Senate, we cannot predict whether the bill or any amendments to the bill will actually become law. If the bill is passed as currently written, this will have a material adverse affect on our business.

On December 20, 2001, the FCC issued a notice of proposed rulemaking to commence its triennial review of the incumbent local exchange carriers' unbundling obligations. We cannot predict the outcome of that proceeding but the FCC's tentative conclusions reached in the December 2001 Notice of Proposed Rulemaking indicate that the triennial review and related FCC rulemaking activities could attempt to accomplish much of what the Tauzin-Dingell bill is designed to accomplish. As such, these activities could lead to new regulations that have a material adverse affect on our business. At a minimum, they increase the uncertainty surrounding our ability to rely on the existing legislative and regulatory scheme on which we have based our current business plan. The expected length of these deliberations will cause this uncertainty to continue for many months.

The Telecommunications Act codifies the incumbent local carriers' equal access and nondiscrimination obligations and preempts inconsistent state regulation. The Telecommunications Act also contains special provisions that replace prior antitrust restrictions that prohibited the regional Bell operating companies from providing long distance services and engaging in telecommunications equipment manufacturing. The Telecommunications Act permits the regional Bell operating companies to enter the out-of-region long distance market immediately upon its enactment. Further, provisions of

the Telecommunications Act permit a regional Bell operating company to enter the long distance market in its in-region states if it satisfies several procedural and substantive requirements, including:

- obtaining FCC approval upon a showing that the regional Bell operating company has entered into interconnection agreements or, under some circumstances, has offered to enter into such agreements in those states in which it seeks long distance relief;
- the interconnection agreements satisfy a 14-point "checklist" of competitive requirements; and
- the FCC is satisfied that the regional Bell operating company's entry into long distance markets is in the public interest.

The FCC has granted approval to Verizon (formerly known as Bell Atlantic) to provide in-region long distance service in New York, Massachusetts, Rhode Island, Connecticut and Pennsylvania and to SBC Communications to provide in-region long distance service in Texas, Oklahoma, Kansas, Missouri and Arkansas. In addition, Verizon has filed an application to offer such service in New Jersey and BellSouth Telecommunications has filed an application to offer such services in Georgia and Louisiana. It is likely that the regional Bell operating companies will file applications to offer long distance services in a number of additional states this year and receive approval to offer long distance services in one or more states. This may have an unfavorable effect on our business. We are legally able to offer our customers both long distance and local exchange services, which the regional Bell operating companies, other than Verizon in New York, Massachusetts, Rhode Island, Connecticut and Pennsylvania and SBC in Texas, Oklahoma Kansas, Missouri and Arkansas currently may not do. Our ability to offer "one-stop shopping" gives us a marketing advantage that we would no longer enjoy. See "—Competition."

On May 8, 1997, the FCC released an order establishing a significantly expanded federal universal service subsidy regime. For example, the FCC established new subsidies for telecommunications and information services provided to qualifying schools and libraries with an annual cap of \$2.25 billion and for services provided to rural health care providers with an annual cap of \$400 million, and expanded the federal subsidies for local exchange telephone services provided to low-income consumers. The FCC more recently adopted rules for subsidizing service provided to consumers in high cost areas, which may result in further substantial increases in the overall cost of the subsidy program. Providers of interstate telecommunications service, such as us must pay for a portion of these programs. Our share of these federal subsidy funds will be based on our share of certain defined interstate telecommunications end user gross revenues. Currently, the FCC is assessing such payments on the basis of a provider's revenue for the previous year. In February 2002, the FCC issued a Notice of Proposed Rulemaking seeking comment on whether it should substitute a connection based universal service contribution scheme for the current revenue based scheme. Under the FCC's proposal, carriers would contribute to the universal service fund based on the number and capacity of lines provided to end users.

Under authority granted by the FCC, we resell the international telecommunications services of other common carriers between the United States and international points. In connection with such authority, our subsidiary, Allegiance Telecom International, Inc., has filed tariffs with the FCC stating the rates, terms and conditions for our international services. On March 16, 2001, the FCC ruled that carriers must detariff international services, which required us to cancel the tariffs we had on file in January 2002.

With respect to our domestic service offerings, certain of our subsidiaries have filed tariffs with the FCC stating the rates, terms and conditions for their interstate services. Our tariffs are generally not subject to pre-effective review by the FCC, and can be amended on one day's notice. However, the FCC does have jurisdiction to require changes in these tariffs. See "Risk Factors—The Regulation of Access Charges Involves Uncertainties, and the Resolution of These Uncertainties Could Adversely

Affect Our Business.” The FCC ordered carriers that provide interstate long distance services to detariff their retail services no later than July 31, 2001. Pursuant to this order, we cancelled our FCC interstate tariffs as of July 31, 2001.

Our access services compete with the services provided by the incumbent local carriers. With limited exceptions, the current policy of the FCC for most interstate access services dictates that incumbent local carriers charge all customers the same price for the same service. Thus, the incumbent local carriers generally cannot lower prices to those customers likely to contract for their services without also lowering charges for the same service to all customers in the same geographic area, including those whose telecommunications requirements would not justify the use of such lower prices. The FCC has, however, adopted rules that significantly lessen the regulation of incumbent local carriers that are subject to competition in their service areas and provide such incumbent local carriers with additional flexibility in pricing some interstate switched and special access services on a central office specific or customer specific basis. Pricing flexibility relieves incumbent local carriers from regulatory constraints in setting rates for services that are subject to competition and as a result, allows them to react more rapidly to market forces.

Incumbent local carriers around the country have been contesting whether the obligation to pay reciprocal compensation to competitive local carriers should apply to local telephone calls from an incumbent local carrier’s customers to Internet service providers served by competitive local carriers. The incumbent local carriers claim that this traffic is interstate in nature and therefore should be exempt from compensation arrangements applicable to local, intrastate calls. Competitive local carriers have contended that the interconnection agreements provide no exception for local calls to Internet service providers and reciprocal compensation is therefore applicable.

On February 26, 1999, the FCC released a Declaratory Ruling determining that Internet service provider traffic is interstate for jurisdictional purposes, but that its current rules neither require nor prohibit the payment of reciprocal compensation for such calls. In the absence of a federal rule, the FCC determined that state commissions have authority to interpret and enforce the reciprocal compensation provisions of existing interconnection agreements, and to determine the appropriate treatment of Internet service provider traffic in arbitrating new agreements. The FCC also requested comment on alternative federal rules to govern compensation for such calls in the future. In response to the FCC ruling, some regional Bell operating companies have asked state commissions to reopen previous decisions requiring the payment of reciprocal compensation on Internet service provider calls. Some Bell companies appealed the FCC’s Declaratory Ruling to the U. S. Court of Appeals for the District of Columbia Circuit, which issued a decision on March 24, 2000, vacating the Ruling and remanding the case to the FCC. The FCC issued an Order on remand on April 19, 2001 in which it determined that ISP traffic was not subject to reciprocal compensation because it is “information access” traffic rather than telecommunications traffic. Nonetheless, the FCC established an interim, transitional recovery mechanism pursuant to which Internet service provider traffic will continue to be compensated, but at rates declining over a period of three years. The transitional recovery mechanism is applicable to interconnection agreements entered into after the effective date of the FCC’s order. The FCC’s Order on remand was appealed and the case is pending before the U.S. Court of Appeals for the District of Columbia Circuit. We cannot predict the outcome of that case.

Internet service providers are among our target customers, and adverse decisions in state proceedings could limit our ability to service this group of customers profitably. Given the uncertainty as to whether and how much compensation should be payable in connection with calls to Internet service providers, we recognize such revenue only when realization of it is certain. See “Risk Factors— We Could Lose Revenue if Calls to Internet Service Providers Are Treated As Long Distance Interstate Calls.”

State Regulation

The Telecommunications Act is intended to increase competition in the telecommunications industry, especially in the local exchange market. With respect to local services, incumbent local carriers are required to allow interconnection to their networks and to provide unbundled access to network facilities, as well as a number of other pro-competitive measures.

State regulatory agencies have regulatory jurisdiction when our facilities and services are used to provide intrastate services. A portion of our current traffic may be classified as intrastate and therefore subject to state regulation. To provide intrastate services, we generally must obtain a certificate of public convenience and necessity from the state regulatory agency and comply with state requirements for telecommunications utilities, including state tariffing requirements.

State agencies, like the FCC, require us to file periodic reports, pay various fees and assessments, and comply with rules governing quality of service, consumer protection, and similar issues. Although the specific requirements vary from state to state, they tend to be more detailed than the FCC's regulation because of the strong public interest in the quality of basic local exchange service. We intend to comply with all applicable state regulations, and as a general matter do not expect that these requirements of industry-wide applicability will have a material adverse effect on our business. However, no assurance can be given that the imposition of new regulatory burdens in a particular state will not affect the profitability of our services in that state.

Local Regulation

Our networks are subject to numerous local regulations such as building codes and licensing. Such regulations vary on a city by city and county by county basis. If we decide in the future to install our own fiber optic transmission facilities, we will need to obtain rights-of-way over private and publicly owned land. There can be no assurance that such rights-of-way will be available to us on economically reasonable or advantageous terms.

COMPETITION

The telecommunications industry is highly competitive. We believe that the principal competitive factors affecting our business are pricing levels and clear pricing policies, customer service, accurate billing and, to a lesser extent, variety of services. Our ability to compete effectively depends upon our continued ability to maintain high quality, market-driven services at prices generally equal to or below those charged by our competitors. To maintain our competitive posture, we believe we must be in a position to reduce our prices in order to meet reductions in rates, if any, by others. Any such reductions could materially adversely affect us. Many of our current and potential competitors have financial, personnel and other resources, including brand name recognition, substantially greater than we do or expect to have in the near term.

Competition for Local Telephone Services. In each of our targeted markets, we compete principally with the existing incumbent carriers serving that area, such as, BellSouth, SBC, Verizon or Qwest. We believe that one of the objectives of the regional Bell operating companies is to be able to offer long distance service in their service territories. Certain companies have already achieved this goal. Verizon has done so in New York, Massachusetts, Rhode Island, Connecticut and Pennsylvania and Southwestern Bell has done so in Texas, Oklahoma, Kansas, Missouri and Arkansas. We believe the regional Bell operating companies expect to offset share losses in their local markets by capturing a significant percentage of the in-region long distance market, especially in the residential segment where the regional Bell operating companies' strong regional brand names and extensive advertising campaigns may be very successful.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange act of 1934, Allegiance Telecom, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on April 1, 2002.

ALLEGIANCE TELECOM, INC.

By: /s/ ROYCE J. HOLLAND
Royce J. Holland,
*Chairman of the Board and
Chief Executive Officer*

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Mark B. Tresnowski and Annie S. Terry, and each of them, each with full power to act without the other, his true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for such person and in his name, place and stead, in any and all capacities, to sign any and all amendments to this report and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto each of said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of Allegiance Telecom, Inc. and in the capacities indicated on April 1, 2002.

<u>SIGNATURE</u>	<u>CAPACITY</u>
<u> /s/ ROYCE J. HOLLAND </u> Royce J. Holland	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
<u> /s/ C. DANIEL YOST </u> C. Daniel Yost	President, Chief Operating Officer and Director
<u> /s/ THOMAS M. LORD </u> Thomas M. Lord	Executive Vice President, Chief Financial Officer and Director (Principal Financial Officer)
<u> /s/ G. CLAY MYERS </u> G. Clay Myers	Senior Vice President of Finance and Accounting (Principal Accounting Officer)



Corporate Overview Voice & Data Services News & Media Online Services

DOCUMENT

Location: Penn Telecom/Voice & Data Services/Voice Services/Local Services

Voice & Data Services

Local services



Competitive Local Exchange Carrier (CLEC)

For you, this means having the unprecedented option of choosing Penn Telecom as your telecommunications provider for your entire network, no matter what the boundaries. It means that Penn Telecom can now provide not only your phone equipment, data services, and long distance, but also your local telephone service. One provider, but the same incomparable service you'll only get from Penn Telecom.

The "C" in CLEC Stands for Competitive Competition...Choice...Cost-effective. As a CLEC, Penn Telecom brings competition into an area where you previously had no choice-no choice in service, no choice in rates. Penn Telecom can change all that.

- Voice Services
- Local Services
- Long Distance
- 800 Services
- Calling Cards
- Voice Mail

Broadband Services

Business Systems

Carrier Hotels

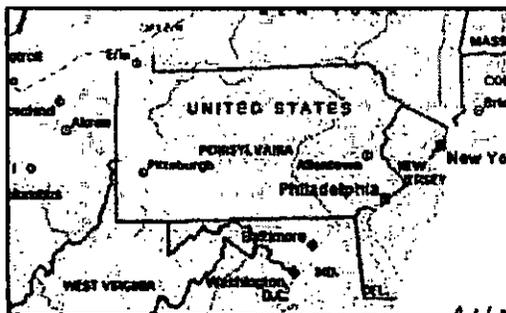
LAN/WAN Services

Job Opportunities
Contact Us
Online

Penn Telecom expands your local calling area while providing more attractive rates. Complement your high speed data delivery systems and equipment with reliable basic service. All the while, continue to experience the high level of reliable service you've come to expect from Penn Telecom.

As a CLEC, Penn Telecom offers you choice.

- Competitive rates - Guaranteed savings.
Keep your same telephone number.
Custom calling packages.
Expanded local calling area.
No fee to switch.
No fee to install new lines.
24-hour repair service.



Penn Telecom Coverage Area
For more detail, click to enlarge.

Coverage areas shown are general, please submit your address here to find out if we can serve you.

Features

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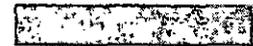
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Call Block	<p>_____</p> <p>Select a Feature for More Information</p> <p>_____</p>	
Caller ID		
Caller ID Deluxe		
Call Forwarding		
Call Forward Busy	IndentaRing	Speed Call 8
Call Forward Remote	Priority Call	Speed Call 30
Call Waiting	Repeat Call	Select Call Forwarding
Fixed Customer Programable	Return Call	Universal 3-Way Calling
Call Forward	Select Accept	

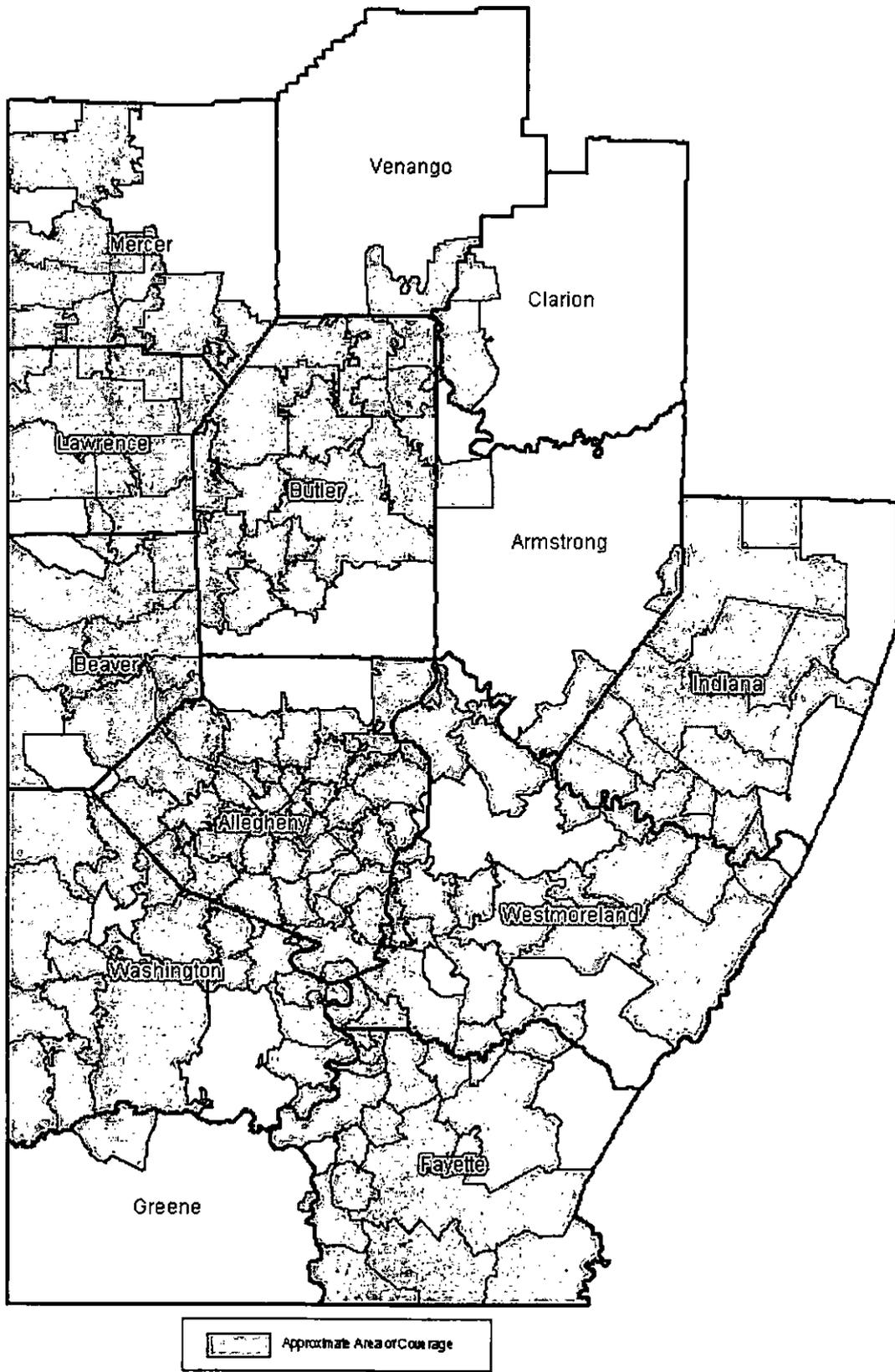
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Penn Telecom Coverage Area



PENN TELECOM, INC.

COMPETITIVE ACCESS SERVICES

REGULATIONS AND SCHEDULE OF INTRASTATE CHARGES
APPLYING TO POINT-TO-POINT SERVICE
WITHIN THE STATE OF PENNSYLVANIA

RECEIVED
FEB 12 2004

DOCUMENT

By: Frank A. Macefe
President
Penn Telecom, Inc.
2710 Rochester Road
Cranberry Township, PA 16066

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This Tariff Establishes Rates and Regulations
for Competitive Access Provider Services

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COMPETITIVE ACCESS SERVICES

3.0 **PRIVATE LINE SERVICES**

Private Line Services consist of the services offered pursuant to this section is offered either individually or in combination. Each service is offered independent of the others. Service is offered via the Company's facilities for the transmission of one-way and two-way communications, unless otherwise noted.

3.1 Services Offered

The following private line services are offered in this tariff:

DS3	Service	(44.7 Mbps)
DS1	Service	(1.5 Mbps)
DS0	Service	(up to 64 kbps)

Private Line Service may be provided by the Company on an Individual Case Basis (ICB).

3.2 Basic and Mixed Vendor Services

DS3 Service and DS1 Service may be provided as either Basic or Mixed Vendor Services, depending upon the availability of facilities. Basic Service rates apply when both endpoints of the channel are served by the Company's network. Mixed Vendor Service rates apply when one endpoint of the transmission channel is served by a local exchange carrier's network (Mixed Vendor Services are provided via a combination of the Company's facilities and local exchange carrier facilities).

DS3 and DS1 channels where both endpoints are served by a local exchange carrier's network will be provided at the sole discretion of the Company, on an Individual Case Basis (ICB).

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.3 DS3 Service (44.736 Mbps)

DS3 Service is composed of digital channels provided at 44.736 Mbps for the transmission of one-way and two-way communications. Interconnections to such channels and equipment interfacing to such channels shall meet the following technical characteristics:

Line Rate: 44.736 Mbps +/- 20 ppm

Line Code: Bipolar with three-zero substitution

Test Load: 75 ohms resistive +/- 5 percent

Power Levels: For an all-ones transmitted pattern, the power in a 2 KHz band about 22.368 KHz shall be -1.8 to +5.7 dBm and the power in a 2 KHz band about 44.736 MHz shall be at least 20 dB below that in a 2 KHz band about 22.368 KHz.

NOTES:

1. The power levels specified by CCITT Recommendation G.703 are identical except that the power is to be measured in 3 KHz bands.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.3 DS3 Service (44.736 Mbps) (continued)

Digital channels at 44.736 Mbps will be provided in one of the following configurations, as specified by the Customer:

Clear Channel DS3: A DS3 signal that is transmitted intact and transparently as provided at the Customer interface. No performance monitoring is performed since all 44.736 Mbps are considered Customer data or voice.

M13 Framed DS3: A DS3 that is channelized into 28 DS1 (1.544 Mbps) signals and include a predefined standard multiplexing scheme as defined in ANSI T1.107a. The M13 DS3 contains parity bits which can be monitored to offer an approximate measure of performance. 43.232 Mbps is Customer data (or voice), the remainder being used for framing, synchronization, parity, etc.

C-bit Parity Framed DS3: A DS3 that can be used for subrated or non-subrated DS3 signals. This allows DS3 signal monitoring for end-to-end performance measurement on an in-service basis, transmitted on the maintenance data communications channel. The C-bit parity format is defined in ANSI T1.107a. 43.232 Mbps is Customer data (or voice), the remainder being used for framing, synchronization, parity, etc.

3.4 DS1 Service (1.544 Mbps)

DS1 Service is composed of digital channels provided at 1.544 Mbps for the transmission of one-way and two-way communications. Interconnections to such channels and equipment interfacing to such channels shall meet the following technical characteristics:

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.4 DS1 Service (1.544 Mbps) (continued)

Line Rate: 1.544 Mbps + 130 ppm

Line Code: AMI: bipolar with at least 12.5% average ones density and no more than 15 consecutive zeros;
-- or --
B8ZS: no minimum density of ones and no consecutive zeros limit.

Test Load: 100 ohms resistance.

Pulse Shape: The pulse amplitude shall be between 2.4 and 3.6 volts.

Power Levels: For an all-ones transmitted pattern, the power in a 2 KHz band about 772 KHz shall be 12.4-18.0 dBm and the power in a 2 KHz band about 1544 KHz shall be at least 29 dB below that in a 2 KHz band about 771 KHz.

Pulse Imbalance: There shall be less than 0.5 dB difference between the total power of the positive pulses and the negative pulses.

NOTES:

1. The CCITT specification is +/- 50 ppm.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.4 DS1 Service (1.544 Mbps) (continued)

NOTES: (continued)

2. Recommended for new equipment: The power in a 2 KHz band about 772 KHz shall be 12.6-17.9 dBm. CCITT requirements: The power in a 3 KHz band about 772 KHz is 12.0-19.0 dBm.
3. CCITT requirements: The power in a 3 KHz band about 1544 KHz shall be at least 25 dB below that in a 3 KHz band about 772 KHz.

Digital channels at 1.544 Mbps will be provided in one of the following configurations, as specified by the Customer:

Unframed DS1: A DS1 signal that does not follow standard framing formats of 192 bits for data and a 193rd bit for framing. An unframed DS1 cannot be synchronized to the network and is not performance monitored.

D4/SF DS1: A framed DS1 consisting of 12 frames (2316 bits) of 192 bits preceded by one framing bit (F bit). This service can be coded as AMI or B8ZS.

ESF DS1: Extends superframe structure from 12 to 24 frames (4632 bits) and redefines the 8 kbps pattern into 2 kbps for mainframe and robbed-bit signaling synchronization, 2 kbps for CRC-6 and 4 kbps for terminal-to-terminal data link. This service can be coded as AMI or B8ZS.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.4.1 FANOUT DS1 Service

Fanout DS1 Service allows a Customer to aggregate up to 28 DS1 channels that terminate in the same location into a single DS3 Local Distribution Channel.

3.5 DS0 Service

DS0 Service is provided only where a customer orders hubbed DS0 Services into a DS1 Service. DS0 Services are Digital Channels furnished by the Company at transmission speeds of 2.4 kbps, 4.8 kbps, 9.6 kbps, 19.2 kbps, 56 kbps, 64 kbps, or in multiples of 56 kbps or 64 kbps up to 1.544 Mbps. Such channels will be configured by the Company to transmit digital data at specified data rates or analog signals converted to digital signals, as described below. Interconnections to such channels and equipment interfacing to such channels shall meet the technical characteristics described below in connection with each service configuration. The NCI Codes referenced below are defined in Bell Communications Research (Bellcore) publication TR-NPL-000335.

Each DS0 channel will be provided in one of the following configurations, as specified by the Customer:

3.5.1 Effective 2-Wire Service:

Provides a digital transmission channel capable of normally carrying, among other information, the digitized representation of human speech. At the Company's point of interconnection with the User, the service will have the technical characteristics of a standard 2-wire analog telephone circuit. Specific configurations are as follows:

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.5.1.1 Private Line Manual Ringdown -

2-wire, 600 ohm or 900 ohm, Loop Start with industry standard demarcation (NCI Code: 02AC2, 02AC3). Provides a circuit connecting two specific locations, where signaling (i.e., ringing current) is provided externally by the Customer. A transmission can be originated from either end. Ringing at 20 Hz will be at industry-standard voltage and current.

3.5.1.2 Private Line Automatic Ringdown (PLAR)

2-wire, 600 ohm, Loop Start with industry standard demarcation (NCI Code: 02LR2). Provides a circuit connecting two specific locations, where signaling (ringing) is automatically generated by the Company upon offhook (transmission origination). Either end can originate the transmission. Ringing at 20 Hz will be at industry-standard voltage and current.

3.5.1.3 OPX/Tie Line/FX/Tie Trunk Private Lines

(OPX) - 2-wire, 600 ohm or 900 ohm, Loop Start, Ground Start, or E+M, with industry standard demarcation (Pose NCI Codes: 02LS2, 02LS3, 02GS2, 02GS3, 02LO2, 02GO2, 04EA2-M, 04EA2-E, 06EB2-M, 06EB2-E). The circuit will be transparent to OPX signaling (e.g., DP or MF dialing, ringing).

3.5.1.4 2-Wire Transmission Only

2-wire, 600 ohm, open loop (continuously connected) with industry standard demarcation (NCI Code: 02NO2). C4 conditioned circuit connecting two locations, typically used for voice-grade data services.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.5.2 Effective 4-Wire Service

Provides a digital transmission channel capable of normally carrying, among other information, the digitized representation of human speech and duplex transmission of data converted to analog signals. At the Company's point of interconnection with the User, the service will have the technical characteristics of a standard 4-wire data-conditioned telephone circuit. Specific configurations are as follows:

3.5.2.1 4-Wire Transmission Only

4-wire, 600 ohm, open loop (continuously connected), with industry standard demarcation. C4/D1 conditioned circuit, with separate transmit and receive wire pairs. (NCI Codes: 04N02, 04DA2.)

3.5.2.2 4-Wire Tie Line/Tie Trunk Private Lines

4-wire talk path, 600 ohm, with industry standard demarcation. Additional leads for signaling, supporting Type I, II, and III E+M or reverse E+M. (Possible NCI Codes: 06EA2-M, 06EA2-E, 08EB2-M, 08EB2-E, and 08EC3.)

3.5.3 Digital Services

Provides a digital transmission channel capable of normally carrying synchronous digital data signals. The following service configurations are available:

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.5.3.1 Low Speed Data Service

A 4-wire 135 ohm handoff. Provides a point-to-point, DDS-compatible full-duplex synchronous circuit operating at 2.4 Kbps, 4.8 Kbps, 9.6, or 19.2 Kbps, with error correction. Supports all DDS control codes. Secondary channel is supported. (Possible NCI Codes: 04DU5-24, 04DU5-48, 04DU5-96, 04DU5-19).

3.5.3.2 56 Kbps Data Service

A 4-wire 135 ohm handoff. Provides a point-to-point, DDS-compatible full-duplex synchronous circuit operating at 56 Kbps. No error correction is provided. Supports all DDS control codes. Optional secondary channel is supported. (Possible NCI Code: 04DU5-56).

3.5.3.3 64 Kbps Data Service

A 4-wire 135 ohm handoff. Provides point-to-point, 64 Kbps clear channel for a full-duplex synchronous data circuit. No error correction or in-band control codes are supported. (Possible NCI Code: 04DU5-64).

3.5.3.4 [Reserve for future use]

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.5.4 FANOUT DS0 Service

Fanout DS0 Service allows a Customer to aggregate up to 24 DS0 channels that terminate in the same location into a single DS1 Local Distribution Channel.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6 Rates for Private Line Service

3.6.1 General

Non-recurring and monthly recurring rates apply for each Digital Transmission Service furnished by the Company. Monthly recurring rates vary according to the time period for which the Customer commits to take the service. Unless otherwise noted, three standard rate elements are used in calculating the monthly recurring rate for each service:

Local Distribution Channel (LDC): This rate element applies to each end-point of a digital channel provided to a Customer.

Interoffice Channel Mileage-Fixed: This rate element applies per digital channel whenever there is mileage associated with the channel; a digital channel has mileage associated with it when the endpoints of the channel are located in geographic areas normally served out of separate local exchange carrier ("LEC") end offices. This rate element applies per circuit endpoint.

Interoffice Channel Mileage-Per Mile: The unit rate is multiplied by the number of miles (Interoffice Mileage) between the two LEC end offices serving the geographic areas in which the endpoints of the channel are located. Interoffice Mileage is determined according to the V&H coordinates method set forth in the NATIONAL EXCHANGE CARRIER ASSOCIATION, INC. TARIFF F.C.C. NO. 4.

Fractions of a mile are rounded up to the next whole mile before rates are applied.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6.2 Basic and Mixed Vendor Services

DS3 Service and DS1 Service may be provided as either Basic or Mixed Vendor Services, depending upon the availability of facilities. Basic Service rates apply when both endpoints of the channel are served by the Company's network. Mixed Vendor Service rates apply when one endpoint of the transmission channel is served by another carrier's network (Mixed Vendor Services are provided via a combination of the Company's facilities and another carrier's facilities).

DS3 and DS1 channels where both endpoints are served by a local exchange carrier's network will be provided at the sole discretion of the Company, on an Individual Case Basis (ICB).

3.6.3 DS3 SERVICE (44.736 Mbps)

3.6.3.1 Basic DS3 Service

This service consists of a DS3 (44.736 Mbps) capacity digital channel available on a 24 hour per day, 7 day per week basis between two points. There is a 1-year minimum service period for each Basic DS3.

(A) Local Distribution Channel: This rate element applies to each end-point of a transmission channel.

<u>Basic Service</u>	
Non Recurring	\$ 500
Recurring (per month)	
1 year	\$2,772
3 years	\$2,350
5 years	\$1,615

 COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6.3.1 Basic DS3 Service (continued)

	<u>Mixed Vendor Service</u>	
	Non Recurring	\$ 500
	Recurring	
	1 year	\$3,003
	3 years	\$2,633
	5 years	\$1,853
(B)	Interoffice Channel Mileage-Fixed: Recurring (per month)	
	<u>Basic Service</u>	
	1 year	\$ 810
	3 years	\$ 692
	5 years	\$ 642
	<u>Mixed Vendor Service</u>	
	1 year	\$ 877
	3 years	\$ 775
	5 years	\$ 736
(C)	Interoffice Channel Mileage-Per Mile: Recurring (per month per mile)	
	<u>Basic Service</u>	
	1 year	\$ 162
	3 years	\$ 126
	5 years	\$ 68
	<u>Mixed Vendor Service</u>	
	1 year	\$ 175
	3 years	\$ 141
	5 years	\$ 78

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6.4 Basic DS1 Service (1.544 Mbps)

(A) Local Distribution Channel:

<u>Basic Service</u>	
Non Recurring	\$ 500
Recurring (per month)	
1 year	\$ 189
3 years	\$ 157
5 years	\$ 136
<u>Mixed Vendor Service</u>	
Non Recurring	\$ 500
Recurring (per month)	
1 year	\$ 205
3 years	\$ 176
5 years	\$ 156

(B) Interoffice Channel Mileage-Fixed:
Recurring (per month)

<u>Basic Service</u>	
1 year	\$ 54
3 years	\$ 44
5 years	\$ 38
<u>Mixed Vendor Service</u>	
1 year	\$ 58
3 years	\$ 49
5 years	\$ 44

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6.4 Basic DS1 Service (1.544 Mbps) (continued)

(C) Interoffice Channel Mileage-Per Mile:
Recurring (per month per mile)

Basic Service

1 year	\$	16
3 years	\$	13
5 years	\$	9

Mixed Vendor Service

1 year	\$	17
3 years	\$	14
5 years	\$	10

3.6.5 Hubbed DS1 Service

This service consists of up to 28 DS1 (1.544 Mbps) digital channels, which are aggregated at a Penn Telecom, Inc. Node onto a standard DS3 circuit with Interoffice Mileage and a Local Distribution Channel at the terminating end. There is a minimum 1-year service period for each Hubbed DS1 Service.

Hubbed DS1's consist of 3 rate elements:

- 1) DS1 Local Distribution Channels - Rated as a standard DS1 Local Distribution Channel.
- 2) Central Office Multiplexing - Aggregates the 28 DS1's onto DS3 interoffice facilities.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6.5 Hubbed DS1 Service (continued)

2) Central Office Multiplexing (continued)

Non- Recurring	Monthly Recurring		
	1 Year Term	3 Year Term	5 Year Term
\$ 500	\$ 450	\$ 405	\$ 360

3) DS3 Interoffice Mileage/Local Distribution Channel
 - Rated as standard DS3 Circuit.

3.6.6 DS0 Service

3.6.6.1 Local Distribution Channel

3.6.6.1.1 Non-Recurring Charges

2-Wire Voice Grade	\$ 250.00
4-Wire Voice Grade	\$ 250.00
2.4 to < 56 Kbps	\$ 250.00
56 or 64 Kbps	\$ 250.00
56 or 64 Kbps x N	\$ 250.00

3.6.6.1.2 Monthly Charges

2-Wire Voice Grade	\$ 21.00
4-Wire Voice Grade	\$ 42.00
2.4 to < 56 Kbps	\$ 63.00
56 or 64 Kbps	\$ 100.00
56 or 64 Kbps x N	\$ 100.00 x N

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.6.6.2 Interoffice Mileage

	<u>Fixed</u>	<u>Per Mile</u>
2-Wire Voice Grade	\$ 13.50	\$.45
4-Wire Voice Grade	\$ 13.50	\$.45
2.4 to < 56 Kbps	\$ 42.00	\$ 1.30
56 or 64 Kbps	\$ 81.00	\$ 2.00
56 or 64 Kbps x N	\$ 81.00	\$ 2.00

3.6.7 Hubbed DS0 Service

This service consists of up to 24 DS0 digital channels, which are aggregated at a Penn Telecom, Inc. Node onto a standard DS1 circuit with Interoffice Mileage and a Local Distribution Channel at the terminating end.

Hubbed DS0's consist of 3 rate elements:

- 1) DS0 Local Distribution Channels - Rated as a standard DS0 Local Distribution Channel.
- 2) Central Office Multiplexing - Aggregates the 24 DS0's onto DS1 interoffice facilities.

	<u>Monthly Recurring</u>		
<u>Non- Recurring</u>	<u>1 Year Term</u>	<u>3 Year Term</u>	<u>5 Year Term</u>
\$ 500	\$ 162	\$ 148	\$ 131

- 3) DS1 Interoffice Mileage/Local Distribution Channel
 - Rated as standard DS1 Circuit.

COMPETITIVE ACCESS SERVICES

3.0 PRIVATE LINE SERVICES (continued)

3.7 Non-Standard Offerings

3.7.1 Special Arrangements

Where the Company furnishes a facility or service for which a rate or charge is not specified in the Company's Tariffs, charges based on cost will apply.

COMPETITIVE ACCESS SERVICES

4.0 COLLOCATED INTERCONNECTION

4.1 General

This section contains regulations, terms and conditions for Collocated Interconnection (Collocation) and associated special access transport services as provided by the Company. The Company will make available both a virtual and physical collocation subject to the availability of space and the absence of other technical or legal limitations.

The rates and charges associated with collocation will be determined on an individual case basis.



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Overview

XO™ is committed to serving the needs of emerging and established carriers and service providers such as:

- Competitive Local Exchange Carrier (CLEC)
- Internet Service Provider (ISP)
- IntereXchange Carrier (IXC)
- Incumbent Local Exchange Carrier (ILEC)
- Building Local Exchange Carrier (BLEC)
- Cable TV Provider
- Wireless Service Provider
- VOIP Service Provider
- Utility Telecom Division

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This commitment, combined with our financial strength and vast network, means you can rely on XO to provide the communications solutions you need to stay competitive today... and further down the road.

Everything You Want. Exactly What You Need.™

XO understands that carriers and service providers need more than just bandwidth to satisfy their customers. So along with the generous bandwidth capabilities we offer, our products and services - coupled with dedicated customer service and technical support - make it possible for you to deliver what your customers need.

With assets that directly compete with those of the largest telecommunications service providers, XO serves carriers and service providers of various sizes. So no matter what your line of business, or product or service requirements, XO can handle a piece of your business... or all of it. We'll design a solution specifically for you, evaluating and delivering exactly what you need at a price you can afford.

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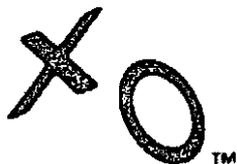
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Product Portfolio

XO Product Solution	Product Advantage
Carrier Long Distance Termination	With Carrier Long Distance Termination, you can complete interstate calls in all 50 states and intrastate calls in the 48 continental states (excludes AK and HI) with only one interconnection.
High-Speed Dedicated Internet Access	High-Speed Dedicated Internet Access provides unlimited high capacity Internet access via non-shared, non-fractional lines.
Inbound PRI (Primary Rate Interface)	Inbound PRI is a 100% digital circuit designed for organizations that provide dial Internet access to end-users and employees.
Wholesale Dial-Up	Wholesale Dial-Up gives you maximum flexibility in offering highly reliable Internet access while maintaining control of your own subscriber accounts.
Carrier Private Line	Carrier Private Line typically consists of non-switched communications circuits and the required equipment to connect two or more locations. Long-haul and local circuits are available in a variety of configurations.
Collocation	Collocation provides secure, controlled carrier-class space and network access for carriers, such as CLECs (Competitive Local Exchange Carriers), IXCs (IntereXchange Carriers) and ISPs (Internet Service Providers).
Wavelength Services	Dedicated connections between sites using Wave Division Multiplexing. Available at OC-12, OC-48 and OC-192 capacities
SONET Services	Allows the transmission of large voice, image and data files by maximizing the high-speed capacity of fiber-optic cables

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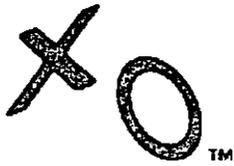
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[Product Portfolio](#)

[Events](#)

[Markets](#)

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Overview

XO™ Carrier Private Line services provide high-speed, dedicated point-to-point connectivity for voice, data and video applications. Typically consisting of non-switched communications circuits and the required equipment to connect two or more locations, Carrier Private Line has long-haul and local circuits available in a variety of configurations. XO Carrier Private Line:

- Lets you select from IntraLATA, InterLATA and Interstate lines available in point-to-point or multipoint configurations
- Achieves 100% network availability with capacities from DS-1 to OC-n
- Offers state-of-the art, self-healing fiber system for network recovery within milliseconds
- Uses our extensive intercity and metropolitan network that spans more than 400,000 route miles to 50 cities nationally

Features

- High-capacity bandwidth from DS-1 (1.5 Mbps) to DS-3 (45 Mbps) to OC-n
- 100% network availability
- SONET architecture
- Self-healing fiber system
- Proactive 24x7 network management and monitoring
- Customized circuits between locations
- Consolidated voice and data bill
- Flexible terms from 12 to 36 months

Pricing and Availability

Pricing and availability for XO Carrier Private Line Services varies. For more information, please contact us online or call XO Carrier Services toll-free today at **1.800.474.1763**.

See Also

- [Learn more about the XO™ Network](#)
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