

DIRECT TESTIMONY
OF
TORSTEN CLAUSEN

TELECOMMUNICATIONS DIVISION
ILLINOIS COMMERCE COMMISSION

DOCKET NO. 00-0312/00-0313, rehearing

November 21, 2000

1 **Q. Please state your name and business address.**

2 A. My name is Torsten Clausen and my business address is 527 East Capitol Avenue,
3 Springfield, Illinois 62701.

4 **Q. What is your occupation?**

5 A. I am a Policy Analyst in the Telecommunications Division of the Illinois Commerce
6 Commission ("Commission").

7 **Q. Please describe your educational and occupational background.**

8 A. I graduated in 1997 from the University of Giessen, Germany with a Bachelor of Arts
9 in Business and Economics. In May 2000, I was awarded a Master of Science
10 degree in Economics from the University of Wyoming.

11 The University of Wyoming M.S. in Economics degree program concentrates
12 specifically on the economics of regulation. The graduate courses taken during this
13 program include *Telecommunications: Policy and Regulation, Public Utilities*
14 *Economics, Advanced Industrial Organization and Public Policy*, and a seminar in
15 *Regulatory Economics*. My Master's thesis is entitled *Pricing based on Total*
16 *Element Long Run Incremental Cost: An Economic Evaluation*. It analyzes the
17 economic and other consequences of the FCC's use of the TELRIC costing
18 methodology and explores alternatives.

19 From May to August of 1999, I was employed as an intern in the Policy
20 Department of the Telecommunications Division with the Commission. In this
21 capacity, I performed research and analysis of local telecommunications
22 competition and other policy related issues. Among other duties, I examined the

1 effects of current Illinois Commerce Commission rules on arbitrated interconnection
2 agreements, and contributed to a statutory, regulatory and judicial treatise on
3 telecom regulation by providing analysis of the FCC's interconnection order
4 (*Implementation of the Local Competition Provisions of the Telecommunications*
5 *Act of 1996*, CC Docket No. 96-98). During such internship, I also assisted
6 Telecommunications Division staff in various docketed cases, including Case No.
7 98-0555, the Ameritech/SBC merger, 98-0860 SBC/Ameritech Service
8 Reclassification and numerous interconnection agreements. I have also
9 participated in several workshops and staff presentations on subjects including
10 separations, OSS, wholesale pricing and interconnection.

11 **Q. Have you previously testified before the Commission?**

12 A. Yes. I have provided expert witness testimony in Dockets 00-0332 (Level 3 vs.
13 Ameritech Arbitration), 00-0233/00-0335 Consolidated (Universal Service Support
14 Fund), 99-0511 (Illinois Code Part 790 rewrite), 00-0393 (Ameritech's Line Sharing
15 tariff) and several negotiated interconnection agreements.

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

17 A. My testimony shows why CLEC choice concerning line cards at Project Pronto
18 remote terminals ("RTs") is crucial to the development of competition in the market
19 for xDSL services. I recommend that competitors have the right to choose their own
20 line cards, but that this be done without unduly reducing Ameritech's incentive to roll
21 out Project Pronto in Illinois.

22 This testimony also addresses the timing of Ameritech's graphical user
23 interface ("GUI") availability.

1 **Q. What are the two main policy goals the Commission should pursue with**
2 **respect to Ameritech's Project Pronto network architecture?**

3 First, the Commission should take steps to provide incentives for ILECs to invest in
4 upgrading their existing networks and in building new infrastructure

5 Second, the Commission should prevent ILECs like Ameritech from designing an
6 inflexible network architecture that locks competitors into a specific technology. This
7 inflexibility would defeat the Commission's objectives of unbundling and opening up
8 the incumbent's network.

9 **Q. How can the first goal be achieved?**

10 A. Policy objectives, such as unbundling, should be implemented in a way that allows
11 ILECs to make reasonable returns on their investments. In its *Local Competition*
12 *Order*, the FCC determined that a reasonable rate of return would be achieved by
13 pricing interconnection services and UNEs according to the TELRIC methodology.¹
14 Although SBC's Broadband Service offering is currently not available on an
15 unbundled basis, SBC has decided to offer it at TELRIC based prices.² Based on
16 the *Local Competition Order*, I believe TELRIC is the appropriate basis for pricing
17 wholesale offerings.

18 Moreover, unbundling and other requirements placed on ILECs should be
19 implemented in a way that is not too burdensome or too impractical for the ILEC.

20 One of the major arguments made by Ameritech is that CLEC ownership of line

¹ *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order in CC Docket 96-98, rel. August 8, 1996 ("*Local Competition Order*") at 672.

² SBC is the parent company of regional incumbent LEC Ameritech. Since Project Pronto is an undertaking of SBC in all of its 13-state territory, I often refer to SBC when discussing the Project Pronto roll out.

1 cards would place a heavy administrative burden on Ameritech.³

2 **Q. How can the first goal be implemented in the context of Project Pronto?**

3 A. To achieve the goal of vigorous competition in the market for xDSL services, while
4 not unduly burdening Ameritech, I propose a phased-in approach that calls for
5 collaborative workshops before CLECs are allowed to execute their rights to
6 specify their own line cards. This proposal is described in more detail below.

7 **Q. How can the second policy goal -- limiting inflexible network architecture --**
8 **be achieved in this proceeding?**

9 A. When ILECs deploy new technologies, the Commission should ensure an open
10 network architecture is utilized that gives CLECs enough flexibility in their quest to
11 become facilities-based competitors. A CLEC's ability to differentiate its services
12 from those of the incumbent is vital to its success.

13 One way to ensure these successes is for competitors to have their voices
14 heard when ILECs design new networks or restructure existing networks. It does not
15 appear these voices were heard in the case of Project Pronto. Accordingly I believe
16 that giving CLECs the right to specify their own line cards increases opportunities
17 for flexible network architecture.

18 **Q. Compared to a "traditional" line sharing situation, why are competitors**
19 **impaired in their ability to offer distinctive services if they purchase SBC's**
20 **Broadband Service offering?**

21 A. In a "traditional" line sharing environment (where copper is deployed from the NID to
22 the CO), CLECs have the ability to offer all desired variations of xDSL services that

³ Docket 00-0393, Ameritech Ex. 6.1 (Lube) at 17.

1 can share the line with voice services. This ability stems from the fact that CLECs
2 are able to install their own equipment at the central office, enabling them to deploy
3 the types of xDSL services they desire. In a Project Pronto environment, the
4 equipment that determines the types of services being offered is placed at the
5 remote terminal. Line cards that plug into Next Generation Digital Loop Carrier
6 (“NGDLC”) systems at the RT are performing the functions that a DSLAM and a
7 splitter perform at a central office. If CLECs do not have the ability to specify the line
8 cards at the remote terminal, they do not have the same options as in a traditional
9 line sharing situation. This lack of options occurs only when CLECs are compelled
10 to take SBC’s Broadband Service offering in a mixed copper-fiber environment.

11 **Q. In your opinion, why is SBC rolling out only one particular type of xDSL**
12 **service while CLECs request functions and features that SBC currently**
13 **does not offer?**

14 A. I believe SBC (through its data affiliates ANSI and AADS) is targeting the mass
15 market with the roll out of Project Pronto. This conclusion can be drawn from SBC’s
16 announced commitment to spend around \$6 billion in its entire 13-state region over
17 the next three years.⁴ CLECs on the other hand typically target specific markets
18 and/or specific customers. Some markets and/or customers might not be interested
19 in SBC’s current Project Pronto offerings.

20 **Q. The FCC’s *Line Sharing Order*⁵ did not require ILECs to line share over the**
21 **entire loop in a DLC situation. Why should this Commission rule differently?**

⁴ SBC Investor Briefing, rel. October 18, 1999.

⁵ Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98, adopted

1 A. In its *Line Sharing Order*, the FCC did not address the situation that is now before
2 this Commission. NGDLCs are nowhere discussed in that order and no party filed
3 comments regarding line sharing using NGDLCs. The FCC only addressed Line
4 Sharing in the context of “traditional” DLC systems, which do not have the same
5 capabilities as the NGDLC systems deployed in Project Pronto . **Q. Ameritech**

6 **has raised concerns regarding the technical feasibility of line sharing over**
7 **fiber facilities. What is your assessment of Ameritech’s contentions?**

8 A. The Commission should reject Ameritech’s claim that line sharing over fiber is
9 somehow not technically feasible.⁶ In the evidentiary hearing for Ameritech’s Line
10 Sharing tariff, Ameritech witness Lube admitted that “it is technically feasible to put
11 voice and data over the same piece of glass.”⁷

12 It is technically feasible to put voice and data traffic over the same strand of fiber
13 using wavelength division multiplexing. Alcatel Litespan 2000 NGDLC equipment is
14 capable of this sharing capability. It appears, however, that SBC/Ameritech decided
15 to purchase the Litespan 2000 equipment without this sharing capability, stating
16 that it is more cost effective to use separate strands of fiber for the voice and data
17 traffic.⁸ Certainly it is within SBC’s discretion to make such a business decision.

18 However, the fact that SBC purchased equipment that does not support combined
19 voice and data traffic on the same fiber does not change the fact that line sharing
20 over fiber is technically feasible.

November 18, 1999, released December 9, 2000 (*Line Sharing Order*).

⁶ Tr. at 807.

⁷ 00-0393, Tr. at 308.

⁸ Tr. at 307.

1 **Q. In your opinion, what should the Commission do in order to allow**
2 **competitors to collocate their own line cards?**

3 A. I believe that the Commission should declare the fiber portion between the NGDLC
4 RT and the Optical Concentration Device (“OCD”) at the central office an unbundled
5 network element (“UNE”). CLECs then would be able to collocate their line cards at
6 the RT in order to access the fiber UNE.

7 **Q. What type of collocation at the RT would you advocate for this purpose?**

8 A. I recommend that Ameritech should only be required to allow for virtual collocation of
9 line cards at the RT. This is consistent with the Commission’s previous order in this
10 proceeding. This recommendation would also aid in achieving the goal of not
11 making new requirements too burdensome on the incumbent. Virtual collocation
12 allows Ameritech to maintain control over its NGDLC without giving competitors
13 physical access to their collocated line cards.

14 **Q. What other actions can the Commission take to maintain Ameritech’s**
15 **incentive to roll out Project Pronto in Illinois?**

16 A. Practical matters surrounding the implementation of the line card collocation
17 requirement should be worked out in a collaborative fashion between Ameritech
18 and the involved CLECs. These workshops should be aimed at reducing any
19 administrative burden on Ameritech. CLECs and Ameritech should work together to
20 find standardized processes that mitigate complications relating to the
21 implementation of this collocation requirement. The Commission should set a
22 specific deadline for completion of this process. Based on my familiarity with similar

1 implementation processes, I consider 9 months an appropriate time frame to
2 accomplish this goal. At the end of the proposed workshops, CLECs should be
3 allowed to exercise their rights to specify alternatives to SBC's current ADLU card.
4 Staff should be directed to facilitate and moderate these workshops.

5 **Q. Would this 9-month period unnecessarily delay the introduction of new**
6 **services in Illinois?**

7 A. No. Covad indicated that it has not specified a particular line card for deployment in
8 Project Pronto RTs at this time.⁹ I also consider this time period appropriate for
9 CLECs to provide vendors with detailed input regarding desired features, functions
10 and capabilities of digital line cards.

11 **Q. What alternatives are available to CLECs seeking to provide data services in**
12 **a Project Pronto environment?**

13 A. A CLEC wanting to provide data services in an area served by Project Pronto
14 architecture could collocate at the RT and purchase dark fiber from Ameritech (if
15 available) or purchase fiber capacity from a third party. However, as SBC itself
16 acknowledges, "operational and administrative obstacles, particularly the lack of
17 space in remote terminals" often make collocation at the RT impossible. Even in
18 situations where RT collocation is possible, the number of customers served by a
19 single RT often makes leasing collocation space an excessively costly alternative.
20 Difficult as it is to collocate at a CO serving several RTs and 10,000 or more
21 customers, I believe it is even more difficult collocating at each and every RT, many
22 of which might terminate only a few hundred subloops.

1 The second alternative to using Ameritech's Project Pronto network is for a
2 CLEC to resort to spare all-copper loops. In areas where Ameritech initially served
3 communities by an "old" fiber-fed DLC architecture, however, spare copper loops
4 connecting the RT with the CO are typically unavailable. In addition, many of the
5 copper loops being replaced by Project Pronto are likely unable to deliver advanced
6 services because of their considerable lengths. In the event these all-copper loops
7 are capable of delivering advanced services, they will likely require loop
8 conditioning. Loop conditioning is an additional expense not incurred by a CLEC
9 having unbundled access to Project Pronto.

10 **Q. You recommended earlier creating a new UNE. What are some of the major**
11 **issues that need to be addressed during the creation process?**

12 A. It is clear that CLECs are highly interested in the ability to purchase different ATM
13 Quality of Service levels on the fiber portion of the unbundled loop.¹⁰ For example,
14 Covad has indicated interest in obtaining Unspecified Bit Rate with Minimum
15 Desired Cell Rate ("UBR + MDCR"), an ATM QoS level currently not offered by
16 Ameritech.¹¹ I believe pricing of the new UNE will need to take different ATM QoS
17 levels into account.

18 **Q. Besides situations where a CLEC and Ameritech share a line, why is it**
19 **important to unbundle the fiber portion of the loop?**

20 A. Although the issue in this proceeding deals exclusively with line sharing, it is

⁹ Covad's responses to Staff's data request TC-1.2.

¹⁰ Asynchronous Transfer Mode or ATM is used on the data fiber connecting the NGDLC RT with the OCD at the central office.

¹¹ Covad's responses to Staff's data request TC-1.2.

1 important to note that competitors who want to purchase a complete loop and not
2 share the line with Ameritech also need to have unbundled access to Ameritech's
3 Project Pronto. Some CLECs exclusively offer services that cannot share the line
4 simultaneously with voice service. If these CLECs want to offer service to customers
5 served by Project Pronto and they do not have unbundled access to Ameritech's
6 NGDLC system, these CLECs face the same undesirable alternatives as CLECs
7 sharing the line with Ameritech, like collocating at each and every RT or hoping that
8 spare copper loops are available. Thus, a substantial percentage of Illinois
9 customers might be denied the types of services that customers served by all-
10 copper loops are able to receive.

11 **Q. What is your recommendation regarding the timing of Ameritech's**
12 **implementation of its GUI?**

13 A. I am aware that the Hearing Examiner in Docket 00-0592 (Plan of Record for
14 Operations Support Systems ("OSS")) recommended adoption of Ameritech's
15 proposed March 2001 implementation date.¹² In light of the fact that a final order in
16 this proceeding probably will not be adopted well before this date, I see no ground
17 for objection to Ameritech's proposal.

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

19 A. Yes.

¹² Hearing Examiner's Proposed Order in Docket 00-0592 at 70.