

REBUTTAL TESTIMONY
OF
TORSTEN CLAUSEN

TELECOMMUNICATIONS DIVISION
ILLINOIS COMMERCE COMMISSION

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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. Are you the same Torsten Clausen that submitted direct testimony in this**
8 **proceeding?**

9 A. Yes.

10 **Q. How is your testimony organized?**

11 A. In the first part of my rebuttal testimony I will comment on the subject of line sharing
12 over fiber-fed DLC systems. The second issue addresses the splitter location and
13 pricing, while the third part relates to loop make-up information.

14 **I. Line Sharing over fiber-fed DLC systems**

15 **Q. Rhythms/Covad witness Riolo claims that Ameritech Illinois' deployment of**
16 **a fiber-fed DLC architecture will have an impact on CLECs' ability to engage**
17 **in line sharing.¹ Do you agree?**

18 A. Yes. For the reasons set forth below, I recommend including line sharing over fiber-
19 fed DLC systems in Ameritech's line sharing tariff.

20 **Q. What is the basic purpose behind the FCC's Line Sharing Order?**

¹ Rhythms/Covad Exhibit 2.0 at 56.

1 A. The FCC ordered the sharing of the local loop between the incumbent's voice
2 service and the competitive LEC's data service to remove a competitive
3 disadvantage the CLEC was facing. The incumbent could offer both voice and data
4 services over the same physical loop going into the customer's residence or
5 business. The CLEC, however, had to purchase an additional separate unbundled
6 loop to offer data services. In order "to promote the availability of competitive
7 broadband xDSL-based services, especially to residential and small business
8 customers", the FCC required the incumbent to line share its voice service with the
9 new entrant's data service. As discussed below, the same reasoning should apply
10 to line sharing over fiber-fed DLC.

11 **Q. What did this Commission rule with respect to this issue of Line Sharing**
12 **over fiber-fed DLC systems in the Rhythms/Covad and Ameritech**
13 **arbitration?**

14 A. The Arbitration Decision in 00-0312/00-0313 Cons. (*Arbitration Decision*) states
15 that "Ameritech is required to provide line sharing over fiber-fed "Project Pronto"
16 DLC architecture to CLECs simultaneously with such provision to its retail or
17 affiliate operations."

18 **Q. What , in your opinion, does Ameritech / SBC hope to achieve through its**
19 **implementation of "Project Pronto"?**

20 A. Since many advanced services are distance sensitive, carriers recognize the need
21 to bring advanced services equipment closer to the customer premises. One way
22 to achieve that is to shorten the copper portion of the local loop by replacing a part

1 of the copper facilities with fiber facilities. SBC is building or upgrading
2 approximately 25,000 remote terminals (RTs) connected through fiber facilities to
3 about 1,400 central offices (COs) in SBC's 13-state territory. These RTs will host
4 Next-Generation DLCs (NGDLCs) that enable the delivery of advanced services to
5 communities who previously were not able to receive these services. Project Pronto
6 also enables SBC to improve xDSL services for customers who were able to
7 receive some form of xDSL service before, but who can now subscribe to xDSL
8 services with higher speeds because of the shortened copper loop. SBC estimates
9 that after completion of Project Pronto, 80% of its customers will be able to get high-
10 speed services, either served directly from a CO or served by a fiber-fed RT.

11 **Q. Will CLECs be at a competitive disadvantage if they cannot line share over**
12 **loops served by NGDLCs?**

13 A. Yes. The goal to create parity between ILECs and CLECs would be jeopardized if
14 Ameritech were able to offer bundled voice and data services over mixed fiber-
15 copper loops but a competitive carrier had to resort to either a stand-alone all-
16 copper loop (if present) or a (often economically inefficient) RT collocation in order
17 to provide data services.

18 **Q. Please explain why a stand-alone UNE loop is not a good substitute for line**
19 **sharing over fiber-fed DLC.**

20 A. First, a stand-alone copper loop might not even exist in some cases. According to
21 SBC, some DLC systems will be upgraded to NGDLC systems, and in areas where
22 Ameritech initially served communities by an "old" fiber-fed DLC architecture, no
23 spare copper loops connecting the RT with the CO are available.

1 Second, many of the copper loops being replaced by a Project Pronto architecture
2 are likely not able to deliver advanced services in the first place. The main goal of
3 Project Pronto is to reach customers who weren't able to receive advanced
4 services before.

5 **Q. Please explain the problems associated with collocation at an RT.**

6 A. As SBC itself acknowledges, "operational and administrative obstacles, particularly
7 the lack of space in remote terminals" often make collocation at the RT impossible.
8 Ameritech currently deploys three different types of remote terminals; specifically
9 controlled environmental vaults (CEVs), huts, and cabinets.

10

11 Even in situations where RT collocation is possible, the number of customers
12 served by a single RT often makes leasing expensive collocation space an
13 excessively costly alternative. It is one thing to collocate at a CO serving several RTs
14 and 10,000 or more customers but it is quite another to being forced to collocate at
15 each and every RT, many of which might terminate only a few hundred subloops.
16 This requirement probably would create an unwanted barrier to carriers which might
17 otherwise seek to enter the market and render advanced services to residential
18 and small business customers in Illinois.

19 **Q. Why didn't the FCC include line sharing over DLC in its *Line Sharing Order*?**

20 A. At the time of the FCC's Line Sharing Order, delivery of advanced services over
21 DLC systems was considered to be technically infeasible. Thus, the FCC required

1 subloop unbundling, i.e. unbundled access to the HFPL “at the remote terminal as
2 well as the central office...”²

3 **Q. Is line sharing technically feasible over the Project Pronto architecture?**

4 A. Yes. SBC in effect “shares the line” when it offers bundled voice and data services
5 to its customers served by NGDLCs. As in the case with traditional line sharing over
6 all-copper loops, no technical factor precludes line sharing over facilities employing
7 NGDLCs. In fact, in its wholesale broadband offering, SBC offers CLECs the data
8 portion of Project Pronto loops even where a SBC ILEC is the customer’s voice
9 service provider.

10 **Q. Does the FCC now recognize that line sharing over fiber-fed DLC systems
11 is technically feasible?**

12 A. Yes. The FCC recognizes that line sharing over Project Pronto architecture is
13 technically feasible. It has ordered modifications to SBC’s current wholesale
14 broadband offering which allows for line sharing between the incumbent LEC and
15 the CLEC over facilities employing NGDLC.³

16 **Q. How will line sharing over Project Pronto architecture differ from traditional
17 line sharing over all-copper loops?**

18 A. In an all-copper loop environment, the voice and data portions share the same
19 physical facility from the customer’s premises to the CO. In the case of Project

² Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98, adopted November 18, 1999, released December 9, 2000 (*Line Sharing Order*) at ¶ 91.

³ Second Memorandum Opinion and Order, In the Matter of AMERITECH CORP., Transferor and SBC COMMUNICATIONS, INC., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission’s Rules (CC Docket No. 98-141), adopted September 7, 2000, released September 8, 2000 (*Modification Order*).

1 Pronto, this is true only for one part of the loop, namely the copper part between the
2 customer's premises and the RT. Along that route, the ILEC and CLEC physically
3 share the same line. At the RT, a digital line card (hereafter referred to as line card
4 or plug-in card), along with the rest of the NGDLC hardware and software, splits the
5 voice and data signal and transports the packetized data to the CO. Separate fiber
6 connections to the CO carry the voice and data traffic respectively. An
7 Asynchronous Transfer Mode ("ATM") based OC-3c (Optical Carrier 3, a type of
8 SONET channel used in high-speed data transmission) carries the data portion,
9 and a Time Division Multiplexed ("TDM") based OC-3 will be provided for the voice
10 path. Thus, the ILEC and CLEC no longer physically share the same line between
11 the RT and the CO. At the CO, the incoming data OC-3c terminates on the Fiber
12 Distribution Frame ("FDF") and will be delivered to an ATM switch. SBC calls this
13 ATM switch an Optical Concentration Device ("OCD") since it aggregates OC-3cs
14 from multiple RTs and routes the traffic to the appropriate CLEC outbound OC-3c or
15 DS3 port leased on the OCD. An OCD cross connect extends the OCD port
16 termination to either a CLEC virtual or physical collocation arrangement. The voice
17 portion also terminates on the FDF and will be delivered to either the ILEC's voice
18 switch or the MDF. The attached diagram from the FCC's *Modification Order*
19 illustrates this configuration.

20 **Q. The line sharing scenario that you just described is offered through SBC's**
21 **"broadband service" offering. Is that offering sufficient to meet Ameritech's**
22 **obligation to offer line sharing over Project Pronto architecture?**

1 A. Not quite. The FCC recently issued an order granting SBC (and its incumbent
2 LECs) the right to own certain equipment used to provide advanced services
3 (specifically, the above mentioned line cards and OCDs) although the FCC's
4 SBC/Ameritech Order required an "Advanced Services Affiliate" to own such
5 equipment.

6 In that order, the FCC required SBC to modify its current version of the
7 broadband service offering to mitigate some of the CLECs concerns. For example,
8 it requires SBC to make available to all carriers all technically feasible Advanced
9 Services features and functions of equipment (e.g., line cards) installed in remote
10 terminals that host a NGDLC. It also requires SBC to host collaborative sessions
11 aimed at discussing and evaluating future features and functions that vendors may
12 develop for use on SBC (and their ILECs) equipment deployed in RTs.

13 This seems to address some of the concerns Covad and Rhythms
14 expressed during the line sharing arbitration that they recently brought before the
15 Commission. In that arbitration, the Commission allowed Covad and Rhythms to
16 choose the plug-in cards to be installed at Project Pronto RTs. In this line sharing
17 tariff proceeding, the Commission has at least two options. The first option would be
18 to mirror the FCC's decision. Under that option, the Commission would deny
19 CLECs the request to choose the plug-in cards and the Commission would find that
20 collaborative sessions are the best way to address the concern that CLECs are
21 locked into a specific technology chosen by the incumbent. This option arguably
22 would require the Commission to amend or modify its decision in the

1 Covad/Rhythms / Ameritech arbitration, unless the Commission believes that there
2 is some reason to treat Covad and Rhythms differently from other carriers.

3 The second option would be for the Commission to decide this matter in a
4 manner consistent with its ruling regarding line cards at remote terminals in the
5 Covad/Rhythms / Ameritech arbitration. This second option appears to be fully
6 consistent with existing FCC orders on the subject. The FCC, in its *Modification*
7 *Order*, stated: “To the extent that these conditions impose fewer or less stringent
8 obligations on SBC than the requirements of any...state decisions or any other pro-
9 competitive statute or policy, nothing in these conditions shall relieve
10 SBC/Ameritech from the requirements of the Act or those decisions.”

11 I recommend that the Commission select the latter alternative, since
12 operational and security concerns are mitigated by the Commission’s requirement
13 that *Ameritech* installs the plug-in cards for the carrier⁴. This arrangement is similar
14 to a virtual collocation situation. Furthermore, while collaborative sessions are useful
15 and needed to facilitate the joint effort between ILECs and CLECs required to
16 provide xDSL services to end users, a CLEC should not be forced to depend on the
17 outcome of a collaborative process to implement a lawful business strategy.

18 Ameritech’s broadband service arrangement is currently only offered as a
19 stand-alone service agreement. Ameritech needs to amend its proposed line
20 sharing tariff to include terms and conditions for line sharing over fiber-fed NGDLC.
21 Specifically, Ameritech needs to modify its broadband service offering relating to
22 line sharing according to the FCC’s *Modification Order* and any additional

1 Commission requirements. Such modifications should include, but not necessarily
2 be limited to, the additional Class of Service (CoS) offerings and the requirements
3 relating to collocation space at existing and future remote terminals.

4 **Q. How would the pricing of line sharing over NGDLC differ from pricing of the**
5 **traditional line sharing arrangement?**

6 A. First, as stated in the *Modification Order*, the broadband offering “will be priced in
7 each state in accordance with the pricing methodology then applicable to unbundled
8 network elements under Sections 251(c)(3) and 252(d)(1) of the Communications
9 Act, except that the service will not be subject to geographic deaveraging.” The
10 pricing methodology applicable to UNEs in Illinois is defined in the Second interim
11 Order in Docket Nos. 96-0486/96-0569 (Consolidated).

12 Second, the recurring charge for the HFPL of the copper sub-loop should be set at
13 the same level as in a traditional line sharing environment, namely zero. The same
14 reasoning, as I set forth in my direct testimony applies here, to support a zero HFPL
15 loop charge.

16 **II. Splitter location and pricing**

17 **Q. On page 39 of his direct testimony, Rhythms/Covad witness Riolo argues**
18 **that a MDF-mounted splitter is the most efficient network configuration.**
19 **Should the Commission reach a different conclusion than it did in the**
20 **Arbitration Decision when it comes to the location of the splitter?**

⁴ Arbitration Decision at 32.

1 A. No. The Commission rejected Covad and Rhythms arguments' and noted that
2 "placing splitters on the MDF is only efficient from the narrow economic perspective
3 of Rhythms and Covad and their provision of a single service, xDSL service."

4 Covad/Rhythms witness Riolo further argues that even if the splitter is not
5 mounted on the MDF, pricing of line sharing should still be based on the assumption
6 that the splitter is mounted on the MDF. Again, a MDF-mounted splitter might be the
7 most efficient network configuration if providing xDSL services is the only purpose.
8 But a central office design has to take into account the objectives of many different
9 purposes, such as offering different wholesale and retail services. The Arbitration
10 Decision further reads that "Ameritech, ... should not be required to engineer its
11 central office to optimize the economics for just one particular service or provider."

12 Nothing would indicate a need to deviate from the Arbitration Decision on this issue.

13 **III. Loop make-up information**

14 **Q. At page 89 of her direct testimony, Rhythms/Covad witness Murray states**
15 **that the *UNE Remand Order* requires incumbents to provide requesting**
16 **carriers access to all available information relating to loop qualification. Do**
17 **you agree?**

18 A. Yes. In the *UNE Remand Order*, the FCC states that:

19 "an incumbent LEC must provide the requesting carrier with
20 nondiscriminatory access to the same detailed information about the loop
21 that is available to the incumbent, so that the requesting carrier can make an
22 independent judgment about whether the loop is capable of supporting the
23 advanced services equipment the requesting carrier intends to install. Based
24 on these existing obligations, we conclude that, at a minimum, incumbent

1 LECs must provide requesting carriers the same underlying information that
2 the incumbent has in any of its own databases or other internal records.”⁵
3

4 This clearly indicates that the requesting carrier is the one who makes a
5 determination whether or not the desired local loop is xDSL capable or not.

6 Ameritech witness Schlackman seems to indicate that Ameritech is providing some
7 kind of recommendation regarding loop conditioning.⁶ Ameritech should not be
8 allowed to charge for a service that the requesting carrier does not even want.

9 **Q. The *Arbitration Decision* requires Rhythms and Covad to pay for loop
10 qualification information. In your opinion, is that requirement reasonable?**

11 A. That depends on what that charge reflects. The requirement is reasonable if it is a
12 fee that reflects only the cost incurred by Ameritech in collecting and providing the
13 information required by the *UNE Remand Order*. If the rate includes compensation
14 for work that is not even ordered, the requirement does not seem reasonable.
15 Ameritech needs to justify its manual loop qualification charge through its underlying
16 cost study. Without that information, a determination about the reasonableness of
17 that charge is not possible.

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

20 A. Yes, it does.
21

⁵ UNE Remand Order at ¶ 427.

⁶⁶ Ameritech Exhibit 1.0 at 31.