

DIRECT TESTIMONY  
OF  
TORSTEN CLAUSEN

TELECOMMUNICATIONS DIVISION  
ILLINOIS COMMERCE COMMISSION

DOCKET NO. 00-0393

July 2, 2001

OFFICIAL FILE

ILL. C. C. DOCKET NO. 00-0393  
Accstg Remy 1.0

Witness \_\_\_\_\_

Date 7/24/01 Reporter and

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

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

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

5 A. I am a Policy Analyst in the Telecommunications Division of the Illinois  
6 Commerce 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  
9 Arts in Business and Economics. In May 2000, I was awarded a Master of  
10 Science degree in Economics from the University of Wyoming.

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

24 interconnection agreements, and contributed to a statutory, regulatory and  
25 judicial treatise on telecom regulation by providing analysis of the FCC's  
26 interconnection order (*Implementation of the Local Competition Provisions of the*  
27 *Telecommunications Act of 1996*, CC Docket No. 96-98). During such internship,  
28 I also assisted Telecommunications Division staff in various docketed cases,  
29 including Case No. 98-0555, the Ameritech/SBC merger, 98-0860  
30 SBC/Ameritech Service Reclassification and numerous interconnection  
31 agreements. I have also participated in several workshops and staff  
32 presentations on subjects including separations, OSS, wholesale pricing and  
33 interconnection.

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

35 A. Yes. I have provided expert witness testimony in Dockets 00-0332 (Level 3 vs.  
36 Ameritech Arbitration), 00-0233/00-0335 Consolidated (Universal Service  
37 Support Fund), 99-0511 (Illinois Admin. Code Part 790 rewrite), 00-0312/00-  
38 0313 (Covad/Rhythms vs. Ameritech Arbitration), 99-0615 (Ameritech's  
39 Collocation tariff), 01-0338 (TDS Metrocom vs. Ameritech Arbitration), and  
40 several negotiated interconnection agreements.

41

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

43 A. I will explain why the unbundling of Project Pronto remains a sound pro-  
44 competitive policy, and how such unbundling can be accomplished without  
45 reducing Ameritech's incentives to invest in network upgrades.

46

47 I. **Why the unbundling of Project Pronto is crucial in ensuring robust**  
48 **competition in the advanced services market.**

49  
50 Q. **This Commission concluded as many as three times that competitors**  
51 **should have unbundled access to Ameritech's Project Pronto architecture.**  
52 **Do you see any reason why the Commission should alter its conclusion**  
53 **when addressing the issue for the fourth time?**

54  
55 A. No. As the testimony and record of the previous proceedings reflect, for  
56 meaningful competition to develop, competitors must have an effective means to  
57 compete with the incumbent. Unbundled access to Project Pronto is crucial for  
58 CLECs to compete with Ameritech in high-speed data services.

59 Although Ameritech consistently points out that Project Pronto is an  
60 overlay network and does not replace existing facilities, the previous  
61 proceedings have made clear that alternatives to the unbundling of Project  
62 Pronto are, in reality, often no alternatives at all. For example, Ameritech  
63 contends that a CLEC that wants to provide data services in an area served by  
64 Project Pronto could collocate at the remote terminal ("RT") and purchase dark  
65 fiber from Ameritech (if available) or purchase fiber capacity from a third party.  
66 However, operational and administrative obstacles, particularly the lack of space  
67 in RTs, often would make collocation at the RT impossible. Even where RT  
68 collocation is possible, the number of customers served by a single RT often  
69 makes leasing collocation space an excessively costly alternative on a per-

70 customer basis. I believe it is not a feasible alternative, technically or  
71 economically, for a CLEC to collocate at each and every RT, many of which  
72 might terminate only a few hundred subloops. The FCC recognizes this fact in its  
73 Line Sharing Reconsideration Order when it states that

74 fiber deployment by incumbent LECs is increasing, and that  
75 collocation by competitive LECs at remote terminals is likely to be  
76 costly, time consuming, and often unavailable. We provide this  
77 clarification because we find that it would be inconsistent with the  
78 intent of the Line Sharing Order and the statutory goals behind  
79 sections 706 and 251 of the 1996 Act to permit the increased  
80 deployment of fiber-based networks by incumbent LECs to unduly  
81 inhibit the competitive provision of xDSL services.<sup>1</sup>

82 Ameritech asserts that a second viable alternative to CLEC use of the  
83 Project Pronto network is for a CLEC to resort to spare all-copper loops.  
84 However, in areas where Ameritech initially served communities by an "old"  
85 fiber-fed DLC architecture, spare copper loops connecting the RT with the CO  
86 are typically unavailable. In addition, many of the copper loops being replaced  
87 by Project Pronto are probably incapable of delivering advanced services  
88 because of their considerable lengths. Where all-copper loops are capable of  
89 delivering advanced services, it is likely that the copper loop would require loop  
90 conditioning, which is an additional expense not incurred by Ameritech or a  
91 CLEC having unbundled access to Project Pronto.  
92

93 In sum, it is my opinion that competitors will be impaired significantly in  
94 their efforts to compete with Ameritech if they do not have unbundled access to  
95 Project Pronto. The very fact that SBC viewed the existing alternatives as

---

<sup>1</sup> Line Sharing Reconsideration Order at 13.

96 insufficient in order to provide ubiquitous DSL coverage is itself a strong  
97 argument for unbundling Project Pronto.

98

99 **Q. Why are Ameritech's arguments regarding a highly competitive broadband**  
100 **market misplaced?**

101

102 A. Ameritech witnesses Dr. Aron, Dr. Crandall and Dr. Levin discuss at great length  
103 the competitiveness of the high-speed Internet access market. All three  
104 witnesses argue that unbundling Project Pronto is unnecessary since Ameritech  
105 already faces competition from other sources, particularly cable modem service.

106 Arguments concerning the state of the high-speed Internet access market  
107 are misplaced because they really amount to attacks on the line sharing  
108 requirement in general. Regardless of whether Ameritech accepts the line  
109 sharing requirement, the HFPL UNE was established by the FCC after careful  
110 application of the statutory requirements for such unbundling. The FCC found  
111 that an ILEC's "failure to provide such access impairs the ability of a competitive  
112 LEC to offer certain forms of xDSL-based services."<sup>2</sup> The FCC went on to state  
113 that "lack of access would materially raise the cost for competitive LECs to  
114 provide advanced services to residential and small business users, delay broad  
115 facilities-based market entry, and materially limit the scope and quality of  
116 competitor service offerings."<sup>3</sup>

---

<sup>2</sup> Line Sharing Order at 6.

<sup>3</sup> Id.

117 Ameritech witnesses obfuscate the issues in this proceeding by  
118 advancing arguments that are actually directed at a totally different discussion.  
119 In the process of making an informed decision about the unbundling of Project  
120 Pronto Ameritech proffers arguments that are essentially aimed at attacking the  
121 general line sharing requirement.

122

123 **Q. Are the Commission's previous decisions consistent with the FCC's**  
124 **rulings on line sharing?**

125

126 Yes. In finding that competitors should have unbundled access to Project  
127 Pronto, this Commission ensured that the federally mandated line sharing  
128 requirement applies to all loops, not just loops consisting entirely of copper  
129 facilities. The FCC itself has made it abundantly clear that

130

131 "the requirement to provide line sharing applies to the entire loop,  
132 even where the incumbent has deployed fiber in the loop (e.g.,  
133 where the loop is served by a remote terminal). Our use of the  
134 word "copper" in section 51.319(h)(1) was not intended to limit an  
135 incumbent LEC's obligation to provide competitive LECs with  
136 access to the fiber portion of a DLC loop for the provision of line-  
137 shared xDSL services."<sup>4</sup>

138

139 In a "traditional" line sharing environment (using central office-based  
140 DSLAMs and all-copper loops), CLECs have the ability to offer all desired  
141 variations of xDSL services that can coexist on a single line with voice services,  
142 since CLECs are able to install their own equipment at the CO, enabling them to

---

<sup>4</sup> Line Sharing Reconsideration Order at 10.

143 deploy the types of xDSL services they desire. In a Project Pronto environment,  
144 the equipment used to provide the various types of xDSL services is placed at  
145 the remote terminal. Line cards that plug into Next Generation Digital Loop  
146 Carrier (NGDLC) systems at the RT perform the functions that a DSLAM and a  
147 splitter perform at a central office. If CLECs do not have the chance to specify  
148 the line cards at the remote terminal, they do not have the same options as they  
149 would in a traditional line sharing situation.

150

151 **II. Specific unbundling requirements**

152

153 **Q. Please describe the major benefits of the unbundling and line card**  
154 **collocation requirements ordered by the Commission.**

155

156 **A.** Unbundling and line card collocation ensures that competitors have the ability to  
157 innovate and determine their own competitive offerings, rather than solely relying  
158 upon Ameritech's potential deployment schedule. Competitors are allowed to  
159 "push the envelope" when it comes to deploying new and differentiated service  
160 offerings to their customers. With line card collocation, the incumbent no longer  
161 acts as the gatekeeper to the set of advanced services that will be offered to  
162 residential and business customers. Instead, each competitor can use the  
163 inherent features and capabilities of the NGDLC even where Ameritech itself is  
164 either not ready, or decides not to employ the additional capabilities.  
165 Ameritech witnesses Aron, Levin and Crandall ignore the benefits of innovation

166 the Commission's requirements will produce. Project Pronto is a multi-year  
167 undertaking that will shape SBC's network infrastructure for some time to come.  
168 Technology in the telecommunications industry continues to evolve at a rapid  
169 pace. Consumers will benefit from new and innovative services if CLECs have  
170 the ability to participate in shaping the technological future.

171 To illustrate, when Intel announces a new faster, more capable  
172 microprocessor, the majority of consumers purchasing a PC in the first few  
173 months following such announcement are likely to buy a model that has the  
174 previous generation of microprocessor built into it. Yet, some consumers and  
175 businesses benefit from keeping up with the state-of-the-art technology. The  
176 point being, those "early-adopters" do not want to wait until a product becomes a  
177 mainstream product. They are willing to pay a premium to be the first ones to  
178 use new products and services. In the world of telecommunications, increased  
179 innovation is one of the major drivers for opening up former monopoly  
180 environments.

181

182 **Q: The Commission's Order in this proceeding established several new UNEs**  
183 **and allowed CLECs to virtually collocate their own line cards at the NGDLC**  
184 **RT. Is there an alternative to line card collocation that would provide**  
185 **competitors access to the latest technology without giving rise to**  
186 **Ameritech's claims of substantial additional costs associated with line**  
187 **card collocation?**

188

189 A: Yes. As explained above, the objective is to give competitive carriers the ability  
190 to use the inherent features, functions and capabilities of the NGDLC system as  
191 soon as they become available. This goal is achieved through the fact that the  
192 CLEC *determines* the type of line card to be placed into the NGDLC channel  
193 bank, not the fact that the CLEC *owns* the line card once it is placed into the RT.  
194 It is crucial that competitive carriers be able to specify a particular line card, but  
195 a CLEC need not necessarily maintain ownership of the card after it has been  
196 plugged into a slot of a channel bank.

197

198 **Q. Do you agree with Ameritech's assessment of the additional costs that**  
199 **would result from line card collocation?**

200

201 A: No. In this rehearing, Ameritech presents information regarding additional costs  
202 that a line sharing collocation requirement would impose upon them. While I do  
203 not agree with Ameritech's underlying assumptions for calculating the specific  
204 additional capital costs and expenses a line card collocation requirement would  
205 necessitate, I do not dispute the fact that *some* extra cost will be incurred when  
206 Ameritech needs to upgrade its OSS systems to inventory different line cards  
207 owned by different CLECs. It appears, however, that Ameritech overstates the  
208 additional costs it would incur as a result of a line card collocation requirement.

209

210 **Q. Can you provide an example of such a cost overstatement?**

211

212 A. Yes. An example of Ameritech's "worst-case scenario" assumptions is the  
213 following:

214 Ameritech assumed, for the purposes of its cost studies, that each CLEC  
215 would have only one customer per service area interface ("SAI") and thus would  
216 "waste" 3 of the 4 ports on the line card, or 75% of the port capacity. Ameritech  
217 calculates such inefficient port use to be an additional capital cost of  
218 \$23,169,643 when 50% of the planned 2090 RTs in Illinois have collocated line  
219 cards of five different CLECs. If one uses the cost figures provided by Ameritech  
220 and assumes that CLECs on average use 3 out of the 4 line card ports, this  
221 number comes down to one third of Ameritech's calculated amount, specifically  
222 to \$7,723,214. This is just one example of Ameritech's use of "worst-case"  
223 assumptions, and it shows how easily the additional costs of line card collocation  
224 can be inflated.

225

226 **Q. Is it your understanding that this is the first time SBC/Ameritech actually**  
227 **specified monetary figures to support its claim that it is not economically**  
228 **feasible to unbundle Project Pronto?**

229

230 Yes, This is the first time that SBC or Ameritech specifies any kind of dollar  
231 amounts in the three proceedings before this Commission, as well as during the  
232 negotiations with the FCC that led to the *Project Pronto Waiver Order*.

233 Ameritech's claim that it did not know what kind of unbundling  
234 requirements it would be subject to until the Commission entered the Order in

235 the instant proceeding seems misplaced. The issue of line card collocation came  
236 up as early as the spring of 2000, when SBC negotiated a waiver from its merger  
237 conditions that prohibited SBC from owning advanced services equipment.  
238 Subsequent to the negotiations at the FCC, Ameritech had three distinct  
239 possibilities to show this Commission any kind of support for its claims that  
240 CLEC ownership of line cards presents a major additional expense.

241

242 **Q. Do you have a recommendation in the event this Commission wants to**  
243 **avoid any uncertainty regarding the additional costs of line card**  
244 **collocation?**

245

246 **A.** Yes. In this event, I recommend ordering Ameritech to tariff a complete ADSL  
247 capable UNE platform, traversing from the CO to the end user premises, using  
248 the Project Pronto architecture. Such a tariffed "NGDLC UNE platform" offering  
249 would consist of SBC's current broadband service. Compared to SBC's current  
250 broadband service, however, this tariff would ensure that Ameritech cannot  
251 unilaterally change or modify the terms and conditions of its offering.

252

253 Such a platform approach is one of the methods considered by the FCC  
254 in its Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147  
255 and Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98. The  
FCC stated that "such a platform could be defined to include the loop (both

256 feeder and distribution portions, whether copper or fiber), attached electronics,  
257 line-card/DSLAM functionality, ATM switching or its equivalent, and transport.”<sup>5</sup>

258 I believe such a NGDLC UNE platform could achieve the same goals as a  
259 line card collocation requirement. This platform, combined with the requirement  
260 for Ameritech to offer a modified platform when new line cards become available,  
261 ensures that competitors can create demand for their desired line cards and  
262 express their preferred features and capabilities of such line cards to the  
263 licensed manufacturers. This is essentially the same scenario as with line card  
264 collocation, yet additional costs stemming from multiple owners of line cards at  
265 the RT would be avoided.

266

267 **Q. Do you believe adoption of a NGDLC UNE-P would be a superior alternative**  
268 **to the line card collocation requirement and the offering of separate**  
269 **network elements?**

270

271 **A.** Yes. The NGDLC UNE-P would remove all uncertainty concerning Ameritech’s  
272 claims that such unbundled access would prevent it from economically deploying  
273 Project Pronto in Illinois. All of the claimed extra costs of line card collocation  
274 stem from the fact that it is the CLEC who owns a specific card and thus the card  
275 cannot be shared among CLECs. Arguments such as these are no longer valid  
276 when Ameritech owns the line card.

---

<sup>5</sup> Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98 at footnote 135.

277 To ensure CLECs have the ability to specify alternative line cards,  
278 Ameritech should be required to offer a new version of the NGDLC UNE platform  
279 as soon as either Alcatel or a licensed manufacturer issues a new line card. For  
280 example, the parties seem to agree that currently only the ADLU card from  
281 Alcatel operates in conjunction with the Litespan NGDLC system. However, it is  
282 my understanding that Alcatel is currently developing a second line card for the  
283 Litespan system. The line card, which will support G.SHDSL, should be made  
284 available for any CLEc that requests it, including Ameritech's advanced services  
285 affiliate, in a new NGDLC UNE platform offering.

286 In addition to eliminating the need for collocation of line cards, the  
287 NGDLC UNE platform also eliminates Ameritech's concerns regarding some of  
288 the Commission's earlier specific unbundling requirements. Specifically, the  
289 Commission would not need to decide whether the copper subloop from the RT  
290 to the NID and the copper subloop from the RT to the serving area interface  
291 ("SAI") are technically feasible subloops.<sup>6</sup>

292

293 **Q. Under this approach, should Ameritech be required to update its NGDLC**  
294 **UNE-P offerings when new features, functions and capabilities of the**  
295 **NGDLC become feasible?**

296

297 **A.** Yes. As described above, when Alcatel or a licensed manufacturer releases a  
298 new line card for the Litespan system, Ameritech should be required to offer a

299 new NGDLC UNE-P with the capability of the new line card. Besides new line  
300 card developments, I recommend that the Commission order Ameritech to offer a  
301 modified NGDLC UNE-P when the vendor of Ameritech's NGDLC system  
302 develops the capability to provide multiple Permanent Virtual Paths ("PVPs") per  
303 channel bank. While I do not necessarily agree with Ameritech witness Boyer  
304 who describes a scenario in which a CLEC would reserve all of the DSL capacity  
305 in a RT site, I recommend that Ameritech not be required to offer a NGDLC  
306 UNE-P with a PVP option until the software in the NGDLC system allows for the  
307 "unchaining" of PVPs. When such "unchaining" becomes technically feasible,  
308 Ameritech can no longer argue that offering a PVP to a CLEC would reduce the  
309 RT's ADSL capacity by one-third.<sup>7</sup> Currently, the software of the Litespan 2000  
310 system allows for only one dedicated PVP per channel bank assembly.<sup>8</sup>

311

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

313 **A. Yes.**

314

---

<sup>6</sup> Direct Testimony of Chris Boyer at 39.

<sup>7</sup> Id. at 34.

<sup>8</sup> Id.