

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

In the Matter of)	
)	
Implementation of the)	CC Docket No. 96-98
Local Competition Provisions of the)	
Telecommunications Act of 1996)	

**REPLY OF BIRCH TELECOM, INC. TO OPPOSITIONS TO
ITS PETITION FOR RECONSIDERATION**

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Birch Telecom, Inc. (“Birch”) hereby replies to the various oppositions to its petition for reconsideration (“Petition”) of the *Third Report and Order and Fourth Further Notice of Proposed Rulemaking*, FCC 99-238, released November 5, 1999, in the above-captioned docket (the “*Order*”).

INTRODUCTION AND SUMMARY

In its Petition, Birch demonstrated that the availability of unbundled switching is critical to the development of competition in the residential and small business markets. Birch further demonstrated that because of collocation costs and the costs and difficulties inherent in the coordinated cutover process, even where a CLEC has a switch in place, it is impaired in its ability to serve smaller customers through self-provisioned switching. Birch therefore asked the Commission to raise the maximum number of lines that can be provided through unbundled switching in zone 1 of the Top 50 MSAs from the current maximum of three to the DS-1 level. Birch demonstrated that the DS-1 level is the point at which it becomes possible to serve

customers through self-provisioned switching, largely because the coordinated cutover process can be avoided.¹

Predictably, each of the RBOCs and GTE (collectively, the “ILECs”) have filed oppositions to Birch’s Petition and the other petitions for reconsideration asking the Commission to relax the restrictions on the availability of unbundled switching.² As shown below, none of the counter arguments presented by the ILECs are of any merit. The Commission should grant Birch’s Petition and raise the cut-off for unbundled switching to the DS-1 level. At an absolute minimum, the Commission should raise the cut-off to 20 lines. As the analysis provided in Section II demonstrates, it is at that level that it becomes economical for a CLEC to serve a customer through a DS-1 facility instead of individual UNE-P loops.

I. THE COMMISSION SHOULD GRANT BIRCH’S PETITION AND RAISE THE CUT-OFF FOR UNBUNDLED SWITCHING

The ILECs raise two major arguments against Birch’s Petition and the other petitions seeking an increase in the line cap for unbundled switching. First, the ILECs argue that the fact that CLECs have deployed switches throughout density zone 1 of the top 50 MSAs indicates that they are not impaired without unbundled switching. Second, the ILECs challenge the CLECs’ contention that the hot-cut process is a significant impediment to serving smaller customers through self-provisioned switching. Neither of these arguments is availing.

¹ Birch also asked the Commission to clarify that the line cap only applies at the time a CLEC initially puts a customer into service and does not preclude a CLEC from continuing to serve a customer through unbundled switching if the customer’s needs grow beyond the cap.

² See Response of U S West, Inc. to Petitions for Reconsideration and Clarification, filed March 22, 2000 (“U S West Opp.”); Comments and Opposition of GTE, filed March 22, 2000 (“GTE Opp.”); BellSouth Opposition/Comments on Petitions for Reconsideration/Clarification, filed March 22, 2000 (“BellSouth Opp.”); SBC’s Consolidated Opposition to Petitions for Reconsideration and Clarification, filed March 22, 2000 (“SBC Opp.”); Bell Atlantic Opposition to Petitions for Reconsideration and Clarification, filed March 22, 2000 (“Bell Atlantic Opp.”).

A. CLEC Switch Deployment Is Irrelevant to the Question of Whether CLECS Are Impaired in Serving Smaller Customers

Several of the ILECs raise the argument that, since CLECs have deployed hundreds of switches throughout density zone 1 in the top 50 MSAs, they cannot be impaired without access to unbundled switching. As GTE puts it, “CLECs are not impaired in any location where competitors have deployed their own switches.” GTE Opp. at 11; *see also* U S West Opp. at 2-3 (there should be no unbundled switching in any area where a CLEC has deployed a switch because “once a carrier has invested in a switch it can use that switch to serve single line customers just as easily as it can use that switch to serve customers with four or more lines”); SBC Opp. at 3-4; BellSouth Opp. at 3-4.

The ILECs completely miss the point. Whether or not there has been some switch deployment in a given area has little or no bearing on the ability of CLECs to serve smaller customers. As the Commission found, “the ability of one or more competitors to serve certain customers in a particular market is not dispositive of whether competitive LECs without unbundled access to the incumbent LEC’s facilities are able to compete for other customers in the same market” *Order*, ¶ 54. While the existence of a competitor’s switch may evidence that it is practical and economical to serve high-volume business customers in that market (and thus that competitors are not impaired in serving those customers), residential customers and small businesses are an altogether different matter.

As the Commission recognized, with respect to smaller customers, “the delays and costs associated with self-provisioning [switching] will preclude those same competitors, or others, from assuming the risk of entry, unless they can purchase unbundled elements from the incumbent.” *Id.* The Commission therefore concluded that “without access to unbundled local circuit switching, requesting carriers are impaired in their ability to serve the mass market.” *Order*, ¶ 291.

The petitions for reconsideration and comments filed by various CLECs make clear that the Commission was correct in finding that whether or not a switch is deployed is irrelevant to the question of whether a CLEC is impaired in serving smaller customers. As Birch demonstrated in its Petition, the costs associated with collocation, coupled with the additional costs and difficulties imposed on CLECs by the coordinated cutover process make it economically inefficient to serve smaller customers through self-provisioned switching. *See* Birch Petition at 4-5.

While the Commission was correct in its general conclusion that CLECs are impaired in their ability to serve smaller customers without access to unbundled switching, there is no rational basis for the three line maximum adopted by the Commission. The Commission arrived at that number by noting that CLECs are impaired in serving smaller customers and then selecting a number of lines that seemed to the Commission to be typical of a small customer. The issue, however, is not what number of lines constitute a small customer, but rather at what number of lines can a CLEC serve a customer efficiently through self-provisioned switching. As Birch and various other petitioners demonstrated, that point is well above the three line maximum adopted by the Commission.

B. The Difficulties and Delays Associated with the Coordinated Cutover Process Impair the Ability of CLECs to Serve Smaller Customers Through Self-Provisioned Switching

SBC argues that the CLEC petitioners exaggerate the extent to which they are impaired as a result of the coordinated cutover process. SBC Opp. at 4. SBC touts what it claims is an excellent track record in performing coordinated conversions. *Id.* SBC's claims, however, are not borne out by CLECs' real world experience. Several CLECs complained of significant difficulties with SBC's coordinated cutover process in their comments on SBC's Section 271 application for long distance authority in Texas. *See, e.g.* Comments of the CLEC

Coalition, CC Docket No. 00-04, filed February 1, 2000, 41-42; Comments of MCI WorldCom, Inc. on the Application by SBC for Authorization to Provide In-Region, InterLata Services in Texas, CC Docket No. 00-04, filed January 31, 2000, 27.³

Significantly, the Commission specifically rejected the claims of several ILECs, SBC among them, that “they have instituted procedures to provide timely coordinated cutovers to requesting carriers.” *Id.* The Commission found that “[w]here incumbent LECs have undergone comprehensive testing of their loop provisioning processes . . . independent auditors have found difficulties regarding coordinated loop cutover performance.” *Id.*; *see also id.*, ¶ 271 n.540 (citing third party test results reporting problems with SBC’s coordinated cutover process).

Bell Atlantic makes the related argument that since CLECs are serving some customers with three lines or less through self-provisioned switching they must not be impaired in their ability to do so and, therefore, rather than raise the line cap, the Commission should instead eliminate it entirely. Bell Atlantic Opp. at 11. Bell Atlantic’s own data underscores the absurdity of this argument. According to Bell Atlantic, over the last six months, CLECs have converted 39,782 customer with fewer than four lines through the coordinated cutover process. *Id.* Given that there are some 41,600,000 customer lines in Bell Atlantic’s serving region, Statistics of Common Carriers, 1998-1999, 3, that number is laughably small. The fact of the matter is that serving small customers through self-provisioned switching simply is not practical. By contrast, UNE-P allows for quick and broad mass market entry. According to the General

³As for SBC’s point that 75% of the customer locations that it has cutover to CLECs are customers with seven lines or fewer, SBC Opp. at 4, it is impossible to know how to interpret this without knowing more about the distribution of SBC’s customers. SBC reports that 75% of Ameritech’s business customers use three lines or less and that there is a marked drop-off in the percentage of business customers with three lines (12%) and four lines (6%). SBC Opp. at 7. Assuming that residential customers have, on average fewer lines than business customers and that SBC’s customer distribution roughly matches Ameritech’s, then SBC has cutover a disproportionately small number of customers with seven lines or less.

Accounting Office's recent report on the state of local competition, a single new entrant in a single state was able to put 60,000 new customers into service using UNE-P in just five months. United States General Accounting Office, Development of Competition in Local Telephone Markets, GAO/RCED-00-318, 20.

SBC also argues that the Commission never found individual cutovers to be an impairment to the ability of CLECs to serve customers through self-provisioned switching. Rather, according to SBC's reading of the *Order*, the Commission found only that CLECs are impaired in performing the large volumes of cutovers necessary to serve the mass market. Therefore, in SBC's view, since the current three line maximum allows CLECs to target the mass market, there is no basis for increasing the maximum. SBC Opp. at 5-6.

In so arguing, SBC both mischaracterizes the *Order* and reflects a misunderstanding of the operational realities facing CLECs. In the *Order*, the Commission correctly found that every coordinated cutover imposes costs on CLECs because of the manual work necessary to perform the cutover. *Order*, ¶ 265. The Commission cited CompTel's estimate of the costs being between \$59.91 and \$218.62 per loop. *Id.*, ¶ 266. The Commission went on to find that provisioning delays and coordination failures by the ILECs further impair the ability of CLECs to convert customers through the coordinated cutover process. *Id.*, ¶ 271. In no way did the Commission so much as imply that these costs are only significant in the aggregate.

II. THE CUT-OFF SHOULD BE SET AT THE DS-1 LEVEL OR, AT AN ABSOLUTE MINIMUM, AT 20 LINES

As Birch and other petitioners demonstrated, the costs of serving a customer through self-provisioned switching and UNE-loops are prohibitive unless a CLEC can provision a DS-1 or higher capacity loop. By aggregating multiple loops into a single high capacity line, a CLEC both gains cost efficiencies and is able to avoid the difficulties inherent in the coordinated

cutover process. The DS-1 level thus becomes the logical cut-off point under the Commission's impair analysis.⁴

Every CLEC petitioner and commenter that addressed the issue supports increasing the cut-off for unbundled switching to the DS-1 level or higher. *See* Comments and Opposition of AT&T Corp. on Petitions for Reconsideration of the Third Report and Order, filed March 22, 2000, 7 (DS-1); CompTel Opp. at 4 (DS-1); Comments of Cable & Wireless, filed March 22, 2000, 4 (DS-1); Petition of MCI WorldCom for Reconsideration, filed February 17, 2000, 22 ("MCI Petition") (DS-1); Petition for Reconsideration and Clarification of Sprint Corporation, filed February 17, 2000, 8-9 (39 lines).

The only question is at what point does it become economically viable to serve a customer through a DS-1 instead of multiple UNE-P loops. The *best* indicator of when a customer is large enough for a DS-1 facility is when the customer has *already* migrated to such a facility. Consequently, the most appropriate approach is for the Commission to establish the cut-off on the availability of unbundled on local switching at the DS-1 level.

⁴ There is no customer line size at which it is economical to serve a customer through individual DS-0 loops and self-provisioned switching. This is because the major barrier to the use of individual loops is the non-recurring provisioning costs (both those of the ILEC and Birch) that are incurred on a loop-by-loop basis. Because these costs apply on a per-loop basis, this barrier is just as severe at the 10th, 20th or 30th loop as it is at the first loop. Birch estimates that these costs (collocation costs, NRCs for unbundled loops, cross-connects and Birch's cost to provision a single analog loop at its switch) amount to more than \$12.00 per month (if amortized over an entire year). This estimate does not account for the additional costs resulting from the ILECs' inadequate procedures for performing coordinated cutovers. Those additional costs, make it impossible as a practical matter to serve customers through self-provisioned switching at anything below the DS-1 level. For this reason, Birch has ceased offering switch-based services on an individual DS-0 loop basis. U S West thus is simply wrong in its assertion that "where customers have a sufficient volume of traffic and hence generate sufficient revenues, it becomes economically feasible for CLECs to take on the costs and difficulties associated with the individual loop cutover process." U S West Opp. at 7. In Birch's experience, there is no number of individual lines short of the DS-1 level at which it becomes economical to serve a customer through self-provisioned switching.

If, however, the Commission prefers to use a figure representing the actual point at which a CLEC with a switch in place might provision a DS-1 rather than serve a customer through multiple UNE-P loops, Birch has calculated the economic cross-over point. That analysis shows that even using the most efficient, currently available DS-1 technology, customers must have far more than the four lines assumed by the Commission in order to be served economically using self-provisioned switching. Indeed, as explained below, depending upon the contract term for the DS-1 facility, Birch estimates that the economic crossover is between 17 and 20 lines per location.⁵

To compute the economic crossover, Birch calculated its actual monthly DS-1 costs based on the best available technology, and assuming one-, two-, and three-year contracts. The technology deployed by Birch involves an advanced integrated access unit (IAU) and the customer premises used to multiplex the customers' analog lines onto a DS-1 unbundled loop from SBC. This facility is then cross-connected at Birch's collocation space for connection to Birch's Lucent local switch. The unbundled network element prices were taken from Birch's interconnection agreement with SBC in Missouri. The collocation costs used in the analysis are Birch's actual costs for collocation at the McGee tandem in downtown Kansas City, Missouri.

Birch's analysis begins with its actual EF&I (engineered, furnished and installed) cost of the IAU in a voice-only configuration.⁶ To this cost are added the additional costs incurred by Birch, including the cost of the DS-1 unbundled loop (including NRCs), as well as the cost of

⁵In this regard, Birch endorses AT&T's request for clarification that the local switching restriction applies to the number of lines served by each individual CLEC at a single physical premise. A customer may have 30 lines, but if Birch is chosen by the customer to serve only 10, the mere fact the customer has more lines is irrelevant to Birch's provisioning costs.

⁶Combined voice-data applications substantially increase the IAU EFI cost. Because the analysis computes the crossover to UNE-P, however, Birch has only considered costs associated with voice applications.

collocation. Notably, the cost of backhaul to the Birch local switch is not included since such costs are carrier-specific. Consequently, the analysis provides a conservative (i.e., it underestimates) the economic crossover to a digital facility. To compare the DS-1 cost to the monthly cost of UNE-P,⁷ the following assumptions were used to amortize investment to an equivalent monthly cost:

- Collocation costs were amortized over 7 years.
- Collocation space-preparation costs were prorated to remove space used for facilities not relevant to the IAU configuration.
- Fill factor assumed for all collocation facilities/costs was 75%.
- All NRCs and IAU Cost (net of salvage) are amortized over the contract period, assuming a 12.5% cost of capital.
- Salvage value of IAU is assumed to be 66% of initial cost at 12 months, 33% at 24 months, and 0 at 36 months.
- Labor salvage cost is assumed to be 50% of install labor cost.
- Birch's cost to cross-connect the DS-1 to the Birch switch is assumed to be the same as SBC's cost to cross-connect DS-1s at the central office.

The results of Birch's analysis are summarized in the following chart. The chart shows that the cross-over point at which it becomes economically feasible to provide service to a customer using a DS-1 occurs at 20 lines for a customer with a one-year contract term, 17 lines for a customer with a two-year contract term, and 16 lines for a customer with a three-year contract term.

Lines	UNE-P Monthly	DS-1 under Term Contract		
		12 Month	24 Month	36 Month
10	\$144.92	\$283.45	\$238.17	\$227.18
11	\$159.37	\$283.45	\$238.17	\$227.18

⁷Because Birch's switch port costs were not available, UNE-P costs have been reduced by the port component. Further, no usage-related costs (switching, interoffice transport or reciprocal compensation) were included since such costs are highly dependent upon individual customer usage patterns. The effect of not including these cost components is equivalent to assuming that Birch's switching, interoffice transport and local termination costs are equal to SBC's. As a new entrant, however, Birch's facilities do not achieve the scale economies of SBC and, as a result, Birch's unit costs are likely higher. Consequently, by excluding these cost categories, the analysis underestimates the economic crossover.

12	\$173.82	\$283.45	\$238.17	\$227.18
13	\$188.27	\$283.45	\$238.17	\$227.18
14	\$202.72	\$283.45	\$238.17	\$227.18
15	\$217.17	\$283.45	\$238.17	\$227.18
16	\$231.62	\$283.45	\$238.17	\$227.18
17	\$246.07	\$283.45	\$238.17	\$227.18
18	\$260.52	\$283.45	\$238.17	\$227.18
19	\$274.97	\$283.45	\$238.17	\$227.18
20	\$289.42	\$283.45	\$238.17	\$227.18
21	\$303.87	\$283.45	\$238.17	\$227.18
22	\$318.32	\$283.45	\$238.17	\$227.18
23	\$332.77	\$283.45	\$238.17	\$227.18
24	\$347.22	\$283.45	\$238.17	\$227.18

Two points are important to consider when evaluating the above table. First, since DS-1 service is typically provided on a contract basis, customers with, say, 22 lines, but wanting to retain flexibility, could not be served by a DS-1, even though the “cost-only” crossover is less. This is another reason to view the above analysis as conservative.

Second, Birch’s experience in the market is that most customers are reluctant to sign contracts longer than two years, particularly with new entrants. Consequently, while the crossover is marginally lower for three year contracts, the more relevant data is for the one and two year terms. As a one year contract term is the closest analog to service provided on a month-to-month basis through UNE-P, and given the conservative nature of the above analysis, Birch recommends that the line restriction for local switching be established at 20 lines. At an absolute minimum, however, the cut-off should be the 16 line figure produced by assuming a three year contract.⁸

The only other party to submit this type of data is AT&T. *See* AT&T Corp.’s Petition for Reconsideration and Clarification of the Third Report and Order, filed February 17, 15-16

⁸ In its Petition, Birch suggested 10-12 lines as the absolute minimum. This analysis makes clear, however, that the cut-off cannot be set below 16.

(“AT&T Petition”). Although AT&T claims that customers as small as eight lines can *theoretically* be served via its own local switch, this assertion is not consistent with Birch’s *actual* experience in the market. Where Birch’s analysis uses real-world, conservative figures, AT&T’s analysis assumes the availability of DSL technology that has not yet entered the marketplace and relies much more heavily on rough estimates. As such, it is impossible to evaluate its accuracy (i.e., did AT&T include all relevant costs?), or its application to any carrier other than AT&T (i.e., are price discounts assumed in the analysis available to any carrier, or simply carriers as large as AT&T?).

Moreover, perhaps aware of the limitations of its theoretical analysis, AT&T acknowledged in its petition that “sixteen or more lines at a location” is the point at which “it is generally practical for the customer or carrier to use a DS-1 loop facility.” AT&T Petition at 16. That figure is entirely consistent with Birch’s analysis, which shows the cross-over point at 16-20 lines, depending on the term of the customer contract.⁹

CONCLUSION

The Commission should grant the Petition and (1) increase the cap on the number of lines that can be provided using unbundled switching to the DS-1 level or higher and (2) clarify that the line cap only applies at the time a CLEC initially puts a customer into service and does not preclude a CLEC from continuing to serve a customer through unbundled switching if the customer’s needs grow beyond the cap.

Respectfully submitted,

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⁹ MCI suggests in passing that customers may “shift to DS-1 service when they need about eight access lines.” MCI Petition at 22. MCI, however, provides no support for this figure and it does not comport with either Birch’s operational experience or the analysis provided above.

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