14 MAY 2001

CABLE & WIRELESS OPTUS

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Company:	Productivity Commission	**Date:**	11/05/2001
		No of Pages:	15(including this one)

Re: Data –Unbundled Local Loop – International Benchmarking

Ralph

Please find attached the data and relevant articles supporting the graphs contained in our submission.

The data provides a comprehensive range of international benchmark prices for the ULLS. Moreover, it provides a compelling and consistent message that the appropriate price for line rental for ULLS in Bands 1 and 2 is $20 per month.

If you require any further information regarding this issue please do not hesitate to call me (02) 9342 7036.

Thanks
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Unbundled local loop tariffs:

The table below shows the prices for a transferred unbundled local loop copper pair in countries in which LLUB has been made available. The prices are those either set out in the incumbent's RIO or defined by the national regulator. They are expressed per pair at the lowest bitrate available. Prices shown in parentheses are for subsequent copper pairs. When a future date of service availability is shown, it is that set out by the national regulator prior to the EC Regulation on unbundled access to the local loop, COM(200)394. If passed by the European Parliament, this regulation makes unbundling of the local loop mandatory for all the EU Member States by 31 December 2000, and will therefore make any previous decision on service availability void after this date. Prices in italics indicate countries for which prices have been announced but where unbundling has not yet been implemented. All charges are given in euros.

Country	One-off charge	Monthly rental	Co-location offer	Service availability
Austria	54.50 (36.34)	12.35	Yes	Since July 1999 RIO available since 26 June 2000
Belgium	n/a	n/a	n/a	Public consultation was carried out between 1 April and 1 July, 1999
Denmark	47.10 (16.42) (1)	8.30		Since 1 September 1999
Finland	n/a	n/a	n/a	n/a
France	n/a	n/a	n/a	n/a
Germany	97.98	12.99	Yes	Since 8 February 1999 Prices posted on Reg TP's Web site since that date Offer fixed until March 2001
Greece	n/a	n/a	n/a	n/a
Iceland	n/a	n/a	n/a	n/a
Ireland	*n/a*	*15.74 (2)*	*n/a*	*1 April 2001*
Italy	151.85	13.58	Yes	Since May 2000
Liechtenstein	n/a	n/a	n/a	n/a
Luxembourg	n/d	n/d	n/d	n/d
Netherlands	133.90	12.50	Yes	March 1999
Norway	n/a	n/a	n/a	n/a
Portugal	n/a	n/a	n/a	Public consultation ends 1 September 2000
Spain	90.15	30.05	n/a	26 March 1999
Sweden	94.80	15.00		March 2000
UK (3)	*239.49*	*14.73*	*Yes*	*1 January 2000 (previously 1 July 2001)*

Notes

(1) Price in parentheses is the connection charge for additional copper pairs

(2) For unbundling from the switch and EUR25.74 for unbundling remotely from the switch

(3) Exchange rate of GBP1=EUR1.65163 as of 18 August 2000

Help

Cover Story

January 4, 1999

THE GREAT WAIT

Incumbents claim they've unbundled their networks, but why aren't they lining up more CLEC business?

JOAN ENGEBRETSON

Few businesses are as interdependent as incumbent and competitive local exchange carriers. As the concept of the "natural" monopoly fades away, incumbents still are required by law to make pieces of their networks available to competitors. And as competitors begin to build their own networks, they usually find they must rely on the incumbents to provide the last-mile connection to many customers.

Sealing that interdependent relationship are two more parties: state and federal regulators, which are charged with interpreting the 1996 Telecom Act. Their sometimes opposing views add to the complexity of the incumbent/CLEC codependency, causing the relationship to become highly codified.

Incumbents claim they have opened their markets to competition and that they have rolled out the red carpet for CLECs as wholesale customers. But some CLECs say the process of obtaining unbundled elements from incumbents is still too complicated. CLECs' concerns include long waiting times for collocation and sometimes for unbundled elements--and ongoing uncertainty about some of the terms and conditions.

Prolonging negotiations--and sometimes making them contentious--are wide disparities in pricing from state to state, as well as a wide disparity between pricing for unbundled network elements and resale pricing. Because pricing on unbundled network elements generally is more favorable for CLECs, the industry has engaged in an ongoing debate over what constitutes a single element and which elements must be unbundled. Meanwhile, policy-makers have started looking for a way to ignite competition in the residential market, which few CLECs have targeted.

All over the map

CLECs can enter a local market using either a resale or facilities-based approach. In the resale approach, the CLEC buys existing services from the incumbent at retail price--minus marketing and administrative, or "avoided," costs--and then resells those services to end users. Because retail discounts typically average only 20%, few CLECs rely solely on that strategy, although many use it on an interim basis to serve some customers while they build out their networks.

Facilities-based carriers typically install their own switches and may install their own fiber.

Where feasible, they connect customers to their own network, but here, too, they often use an interim approach.

That interim approach involves leasing unbundled network elements (**Figure 1**), which are priced on a "forward-looking cost" basis from the incumbent. Outlined in the telecom act, the idea is to price network elements based on what they would cost using modern technology, rather than on a historical basis. The most common unbundled network element is the unbundled local loop (**Tables 1, 2, 3, 4, 5**).

But pricing for these unbundled elements has varied widely in implementation, due in part to a 1997 Eighth Circuit Court decision that left pricing details to the states. An unbundled loop now costs anywhere from $2.59 in Chicago to more than $70 in rural Arkansas and rural Kansas.

"The difference between SBC and Ameritech absolutely defies reality," says Dhruv Khanna, vice president and general counsel for Covad Communications. He wonders why SBC is willing to buy Ameritech when it believes Ameritech's rates are below cost.

Certainly, the cost to serve less densely populated areas is higher, and some states have more rural areas. But geography alone does not seem to explain the variance.

Much of the disparity is political, says Cronan O'Connell, vice president of industry affairs for the Association for Local Telecommunications Services. O'Connell credits the Illinois Commerce Commission with driving the low loop prices in Ameritech's region. The ICC has been very pro-competition and had a lot of foresight in predicting some of the issues that would arise, says O'Connell. Commissions in neighboring states followed the ICC's lead. "State commissions are very competitive with each other," O'Connell says.

Complicating decisions about local loop pricing are retail pricing policies. Some states use separate rates for rural and urban areas, while others have established the same price statewide. Unbundled loop prices typically track retail pricing.

BellSouth, for example, has opted to establish unbundled loop prices on a statewide basis. In BellSouth's territory, retail pricing traditionally has been higher in urban areas than in rural areas, even though the urban areas cost less to serve, says Alphonso Varner, BellSouth's regulatory director. The idea is that because urban customers can reach more people in their local calling area, their service is more valuable. Using differential unbundled loop pricing would be inconsistent with retail pricing, Varner says.

Another consideration is that in many states, social pricing concepts have driven carriers and regulators to overprice service for businesses and underprice service for residential users. This can lead to a situation--primarily in rural areas--in which the unbundled loop price is actually higher than the cost of basic residential service.

Ameritech found itself in this situation in rural Illinois and filed with the ICC for rate rebalancing, says Ed Wynn, Ameritech's vice president of regulatory policy. The carrier raised residential prices and lowered business prices--an ironic yet logical result of the telecom act.

To combine or not to combine

Forward-looking pricing is generally available only on individual network elements. The same Eighth Circuit Court decision that gave pricing authority to the states also said that incumbents were not required to combine network elements for competitors. For example, if a CLEC needs both a local loop and interoffice transport, it must buy them as two separate elements and be responsible for combining them.

The net result is that facilities-based CLECs must collocate in each incumbent carrier central office where they want to offer service. That's a big investment--as high as $500,000 per CO, according to Charles Kalenbach, vice president of regulatory affairs for e.spire.

Supporters of the Eighth Circuit Court decision, including incumbents and some facilities-based CLECs, argue that only by convincing competitors to build extensive networks will true alternatives to incumbent carriers arise. "It's a disincentive to facilities-based competition if competitors can get a complete platform for the cost of the piece parts," says Ameritech's Wynn.

However, some CLECs and would-be CLECs have argued that certain combinations of elements should be required--perhaps on an interim basis--to achieve widespread competition. These companies have made a range of alternative proposals, seeking various levels of relief from the requirement to recombine elements.

In the category of would-be CLECs are many interexchange carriers, including AT&T, and many long-distance resellers. AT&T initially tested the CLEC market as a reseller but found it could not make a profit using that approach. Since then, the carrier purchased Teleport Communications Group, and it continues to fight for an unbundled network element platform, along with other IXCs and some CLECs.

That option essentially would reverse the Eighth Circuit Court decision--at least temporarily--and require incumbent carriers to offer a complete local network on a forward-looking cost basis, perhaps with a small "glue" charge for combining separate network elements.

Proponents argue that without such a platform, CLECs will not be able to cost-justify service in many non-urban or residential areas. The New York Public Service Commission bought that argument and is requiring Bell Atlantic to offer an unbundled network element platform for up to six years as a condition for entry into the long-distance market (**Table 6**).

Many CLECs hailed this as a helpful near-term measure. ALTS supports the decision, says O'Connell, but emphasizes that it should be used only as an interim measure. Bell Atlantic in New York will likely be the first regional Bell operating company to convince regulators it has opened its market to competition and gain entry into long-distance, she believes. "That scares the other RBOCs because they will be benchmarked by that standard," she says.

Critics of the unbundled network element platform question how much it will really enhance competition.

"This is not the panacea of widespread local residential competition," says Wynn, noting that without rate rebalancing, the residential market still would not be attractive to CLECs.

"The New York situation demonstrates that the unbundled network element platform isn't a

requirement of the act," adds Wynn. "If it were, we would have to make it available to everyone forever."

Extending the loop

As an alternative to the unbundled network element platform, some CLECs have requested a more limited combination of network elements known as an extended loop. An extended loop includes three unbundled elements: an unbundled loop, multiplexing of a CLEC customer's circuit onto a high-speed interoffice transport facility and the interoffice transport facility.

Such a solution would enable a CLEC to collocate in a single CO and serve customers attached to other COs in surrounding areas. That would help CLECs cost-justify serving COs where they have only a small number of customers or where collocation space is difficult to obtain, says e.spire's Kalenbach.

"Extended loops can make facilities-based residential competition conceivable where before it wasn't," says Kalenbach. "We can wait and decide where we have the highest concentration of customers and collocate in those spots first."

Extended loops also could help drive facilities-based competition into metropolitan and suburban areas more quickly, says O'Connell. "CLECs are all standing in line trying to collocate in the top 20 or 30 COs. If [extended loops] occurred, they could step back and move into outlying areas."

How extended loops should be priced is still the subject of debate. Kalenbach argues that they should be priced on a forward-looking cost basis, while O'Connell says that ALTS would accept resale pricing on the transport portion as long as the loop were priced at forward-looking cost.

But incumbent LECs have not welcomed extended loops.

"The Eighth Circuit Court said the CLEC has to do the combining," says Wynn. "If we put it together, it's a service."

Varner says BellSouth will combine elements for a competitor--but it will bill that offering under a professional services arrangement.

Despite such protests, several state commissions--including those in Texas, New York and Maryland--are requiring incumbent carriers to offer extended loops, sometimes as a condition for long-distance approval. But those offerings may come with strings attached. In New York, for example, a CLEC cannot use an extended loop to support data service.

"The purpose of the enhanced extended loop is to promote local exchange competition, so it can only be used for voice," says Dee May, director of federal regulatory affairs for Bell Atlantic Government Relations.

That makes the New York offering useless to data-oriented CLECs, says Terry Monroe, vice president of state affairs for CompTel. He also expresses concern that the New York offering is a tariffed service rather than an unbundled network element. The former can be withdrawn at a later date; the latter cannot.

The data dilemma

CLECs offering data services face several unique challenges in using unbundled network elements from incumbent carriers. Perhaps the biggest issue is whether incumbents should be required to unbundle their data networks--and if so, under what conditions. Of special concern is digital subscriber line (DSL) service. By enabling a conventional copper loop to support high-speed data services at rates of 1.5 Mb/s or higher, DSL is ideal for small and medium-sized businesses as well as residential users.

In 1998, incumbent LECs asked the FCC for exemption from unbundling their data networks. Without such an exemption, they argued, they would have little incentive to invest in high-speed data networks because they would then have to sell off pieces of that network at cost to their competitors.

The FCC proposed a compromise: Incumbents would be exempt from unbundling their data networks if they deployed those networks through a separate subsidiary that would have to purchase unbundled elements from the parent company under the same terms and conditions as the CLECs.

To date, only one RBOC--Ameritech--has chosen that option. Others have filed comments against the FCC's recommendations and still hope to defeat them, charging that the separate subsidiary requirement places an unfair additional burden on the incumbent that is not shared by its competitors. Recently the RBOCs obtained the support of key computer manufacturers--Compaq and Intel--in their fight against the separate subsidiary proposal (Telephony, Dec. 14, page 7).

If the FCC recommendations are adopted, incumbents that don't choose the separate subsidiary option could be required to share DSL access multiplexers (DSLAMs) with competitors on a forward-looking cost basis. Incumbents also would have to resell DSL services at retail price minus avoided costs.

In the meantime, several data-centric CLECs--including Covad, Northpoint Communications, Rhythms NetConnections--are pursuing their own DSL deployments and are even beginning to make DSL available to other CLECS. By the time the data subsidiary issue is resolved, CLECs may have multiple DSL sources from which to choose, minimizing the importance of the FCC's decision.

To deploy DSL, a CLEC must install a DSLAM at or very near the incumbent carrier's CO through a collocation or virtual collocation arrangement. The CLEC also must obtain an unbundled loop that is free of bridge taps and load coils. Both of those requirements can be problematic.

In some states, CLECs wishing to collocate have to pay for the incumbent to install cages in the CO that measure 35 square feet or more. That can cost tens of thousands of dollars. CLECs argue that they don't need that much space to offer DSL and have asked regulators to mandate cageless collocation, which typically costs less than $10,000. In their proposal with Compaq and Intel, however, incumbents argued that they should only be required to offer cageless collocation as one of several alternatives when there is not enough room to install a cage.

The method for acquiring a DSL-ready loop also varies substantially from one incumbent carrier to another.

Some telcos, including Ameritech and U S West, encourage CLECs to use an analog loop, the same type of loop they would order to support voice service. If the line requires conditioning--removal of bridge taps or load coils--the incumbent charges the CLEC extra.

Some CLECs, including Northpoint, are satisfied with that solution. But those extra charges can add up, says Covad Chairman Chuck McMinn. Covad prefers to purchase digital unbundled loops that, by definition, are free of bridge taps and load coils. Seventy-five percent of the time, however, that digital loop is identical to an analog one, says McMinn--even though it may cost substantially more. In urban areas of Texas, for example, SBC Communications charges $15.50 for an analog loop and $39.95 for a digital loop.

A few incumbents have begun to offer conditioned unbundled loops for DSL. Bell Atlantic plans such an offering soon, says May, though pricing has not been determined.

And BellSouth actually charges less for a DSL loop than for a conventional voice-grade loop. Its rationale: The DSL loop is shorter, says Varner.

Still unfolding is how CLECs will offer DSL to customers served through a digital loop carrier--about 15% of potential customers, according to McMinn.

A DLC system uses a single high-speed connection from the CO to a remote unit, from which multiple voice-grade lines are served. The combined bandwidth of those voice-grade lines typically exceeds that of the high-speed link because the system assumes not all customers will be off-hook simultaneously. Because there is no contiguous circuit from the end user to the CO, carriers cannot use a conventional DSL deployment scheme, in which a DSLAM is installed in the CO.

Covad argues that CLECs should be able to put their DSLAMs in the remote unit. "If there's room for the incumbent, there's room for us," says McMinn.

Bell Atlantic has agreed to offer such a solution, dubbed sub-loop unbundling, on a trial basis, says May.

Other incumbents have argued, however, that space in the remote unit is very limited. They instead have proposed that the incumbent install something akin to a Brite card used to deliver ISDN through a DLC. Installed in the remote unit, such a card would create a single circuit from the CO to the end user and enable the CLEC to locate its DSLAM in the CO. Today, in fact, ISDN Brite cards can support integrated DSL--which operates at basic ISDN rates of 144 kb/s--through a CO-located DSLAM.

Some have raised concerns, though, that cards operating at higher DSL rates might be specific to particular types of DSL--carrierless amplitude/phase modulation or discrete multitone, for example--and that the CLEC would be forced to make the same technology choice as the incumbent. That's a situation many CLECs deem unacceptable. Such a solution also may be dependent on the incumbent choosing to deploy DSL through each remote unit to serve its own customers.

An alternative solution for DLC-connected customers might be for the incumbent to offer its own DSL service to CLECs at resale rates, says Michael Malaga, president and CEO of Northpoint.

Another new idea, specific to DSL, is spectrum unbundling--allowing two carriers to share a single loop. Some CLECs say this option could reduce the cost of deploying DSL--although incumbents have attacked just about every aspect of the idea (see sidebar).

Pockets of progress

Despite the difficulty and uncertainty surrounding some aspects of incumbent/CLEC negotiations, the number of RBOC lines sold to competitors has increased substantially in the last year (**Figure 2**).

This trend undoubtedly reflects improvements in the interfaces that carriers use to process orders, revealing that some carriers are rounding the ellipse on the learning curve. Where the right conditions exist, competition is gaining momentum, and CLECs in those areas may be feeling a bit more at home as they tread, day in and day out, on bits and pieces of incumbent turf.

Where competition has not occurred, we may expect to see more involvement from policy-makers. Near-term requirements for extended loops or unbundled network element platforms are among the vehicles they may choose--although the impact of those options in areas where retail and unbundled pricing are off-kilter is questionable.

In those areas, rate rebalancing alone may be ineffective until the larger related questions are tackled, says Sue Mason, executive director of public policy for U S West. "You can't rebalance rates without dealing with access charge reform and universal service," she says.

One way to entice CLECs to offer service to some high-cost areas would be to allow them to have access to universal service funds, says Terry Barnich, president of New Paradigm Resources.

It may be several years before such alternatives gain serious consideration, however--much of the current universal service program is due to remain in effect until at least 2001.

Splitting the loop

JOAN ENGEBRETSON

Some competitive local exchange carriers hope to reduce the cost of deploying digital subscriber line through a new idea called spectrum unbundling. This approach would enable two carriers to share the same loop. One carrier, most likely the incumbent, would use the loop to support voice service; the other, most likely a data CLEC, would use the same loop to support DSL.

Although the idea is still in the exploratory phase, it's simply a variation on what incumbents are deploying today, argues Cronan O'Connell, vice president of industry affairs for the Association for Local Telecommunications Services. Some incumbents deliver analog voice and DSL over the same line, sending the voice signal to a Class 5 switch and the DSL signal to a high-speed data network. "If they split off voice and data for themselves, they can do it for CLECs," says O'Connell.

Under this scenario, the cost of the loop would be allocated between the two separate offerings. "If you're a data CLEC today, you're ordering a second piece of copper [to the end user]. That's an expensive venture," says O'Connell. "Incumbents have allocated all of the loop costs to voice and they're starting from zero for DSL."

The latter is something that state commissions are beginning to examine, O'Connell adds.

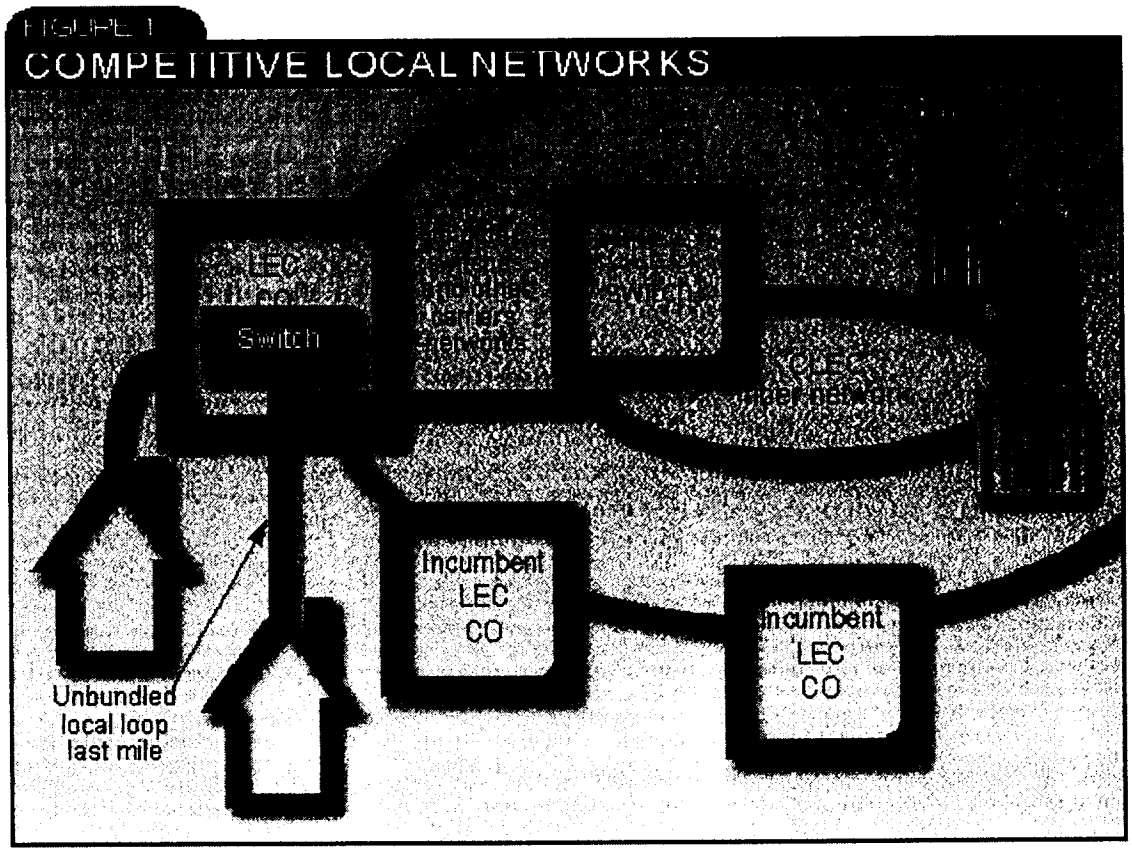
Incumbents, however, dispute the feasibility of two carriers sharing a single loop.

Strict limits on signal strength would have to be established for each carrier, says Robert Blau, vice president of executive and regulatory affairs for BellSouth. "If one carrier goes outside the bounds, it could wipe out the Internet or voice signal," he says, adding that BellSouth would prefer not to be put in a position of having to police those requirements.

Spectrum unbundling also would require significant modifications to operations support systems, says Dee May, director of federal regulatory for Bell Atlantic Government Relations.

Any Comments?
Send them to Karen Murphy at msblues@earthlink.net.

Cover Story Figure



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Cover Story Figure

TABLE 1

LOCAL COMPETITION PROFILE: AMERITECH

Ameritech

Includes voice grade but not high-capacity lines.
Indiana unbundled loop figures not revealed because of confidentiality concerns.

State	Unbundled loop pricing	Lines converted to competitors				
		Resale lines	Unbundled loops	Total lines converted	Total RBOC lines	
Illinois	$2.59-11.40	204,543	15,921	220,464	7,093,507	
Indiana	8.03-8.99	12,067	NA	NA	2,244,808	
Michigan	9.43-14.86	136,770	42,500	179,270	5,449,202	
Ohio	5.93-9.52	83,065	19,043	102,108	4,135,153	
Wisconsin	8.10-13.84	37,469	2,983	40,452	2,287,640	
Total		473,914	80,447	542,294	21,210,310	

Source: Ameritech

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Cover Story Figure

TABLE 2

LOCAL COMPETITION PROFILE: BELL ATLANTIC

Includes switched access lines only

State	Unbundled loop pricing	Lines converted to competitors: Resale lines	Unbundled loops	Total lines converted	Total RBOC lines	Percent converted
Delaware	$10.07	10,160	1,803	11,963	551,000	2.2%
District of Columbia	10.81	10,740	448	11,188	920,000	1.2%
Maine	26.69	1,118	181	1,299	659,000	0.2%
Maryland	12.11	21,630	2,122	23,752	3,572,000	0.7%
Massachusetts	7.54-20.04	96,188	2,806	98,994	4,393,000	2.3%
New Hampshire	17.99	7,333	188	7,521	773,000	1.0%
New Jersey	11.95	40,320	472	40,792	6,111,000	0.7%
New York	12.49	237,046	24,147	261,193	11,449,000	2.3%
Pennsylvania	11.52	90,569	26,106	116,675	6,280,000	1.9%
Rhode Island	21.69	2,774	1,880	4,654	668,000	0.7%
Vermont	28.29	915	0	915	334,000	0.3%
Virginia	9.52	14,718	1,010	15,728	3,402,000	0.5%
West Virginia	24.09	0	0	0	809,000	0.0%
Totals		533,511	61,163	594,674	39,921,000	1.5%

Source: Bell Atlantic

BACK TO COVER STORY

Cover Story Figure

TABLE
LOCAL COMPETITION PROFILE: BELLSOUTH

Includes voice grades and high-speed switched and private lines

State	Unbundled loop pricing	Lines converted to competitors				
		Resale lines	Unbundled loops	Total lines converted	Total RBOC lines	Percent converted
Alabama	$19.04	32,003	1,364	33,367	1,959,000	1.7%
Florida	17.00	105,209	3,226	108,435	6,430,000	1.7%
Georgia	16.51	107,067	6,659	113,726	4,131,000	2.8%
Kentucky	20.00	29,330	521	29,851	1,202,000	2.5%
Louisiana	19.35	67,420	767	68,187	2,334,000	2.9%
Mississippi	21.26	34,686	1,369	36,055	1,272,000	2.8%
North Carolina*	16.71	33,210	1,047	34,257	2,425,000	1.4%
South Carolina	22.49	54,053	260	54,313	1,446,000	3.8%
Tennessee*	18.00	27,300	18,529	45,829	2,670,000	1.7%
Total		490,278	33,742	524,020	23,869,000	2.2%

Source: BellSouth

*Arbitrated decisions

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Cover Story Figure

TABLE 4

LOCAL COMPETITION PROFILE: SBC COMMUNICATIONS

Includes switched access lines only

State	Unbundled loop pricing	Lines converted to competitors: Resale lines	Unbundled loops	Total lines converted	Total RBOC lines	Percent converted
Arkansas	$18.75-71.05	16,892	1,853	18,745	958,397	2.0%
California	12.92	251,600	47,275	298,875	17,792,401	1.7%
Kansas	19.65-70.30	61,847	402	62,249	1,347,530	4.6%
Missouri	18.40-35.85	29,741	1,770	31,511	2,526,994	1.2%
Nevada	13.65-34.75	2,115	3,986	6,101	340,175	1.8%
Oklahoma	13.00-35.00	34,555	1,701	36,256	1,631,079	2.2%
Texas	15.50-23.10	317,128	2,651	319,779	9,473,156	3.4%
Total		713,878	59,638	773,516	34,069,732	2.3%

Source: SBC/FCC

BACK TO COVER STORY

Cover Story Figure

TABLE A

LOCAL COMPETITION PROFILE: U S WEST

Includes switched access lines only

State	Unbundled loop pricing	Lines converted to competitors: Resale lines	Unbundled loops	Total lines converted	Total RBOC lines	Percent converted
Arizona	$21.98	11,857	1,386	13,243	2,614,858	0.5%
Colorado	16.65-84.65	25,388	73	25,461	2,583,269	1.0%
Idaho	25.52	257	0	257	470,157	0.1%
Iowa	20.15	110,338	1	110,339	1,060,092	10.4%
Minnesota	12.03	69,461	1,409	70,870	2,201,742	3.2%
Montana	27.41	1,106	3	1,109	356,383	0.3%
Nebraska*	23.26	4,370	265	4,635	532,882	0.9%
New Mexico	17.75-26.23	335	2,077	2,412	778,322	0.3%
North Dakota	19.75	13,497	39	13,536	247,815	5.5%
Oregon	17.98	51,075	33	51,108	1,346,257	3.8%
South Dakota	21.09	13,392	0	13,392	270,837	4.9%
Utah	20.00	5,275	978	6,253	1,068,513	0.6%
Washington*	12.35	44,147	121	44,268	2,470,238	1.8%
Wyoming	27.51	6,535	0	6,535	240,811	2.7%
Total		357,033	6,385	363,418	16,242,176	2.2%

*Average interim rate

Source: U S West/ FCC

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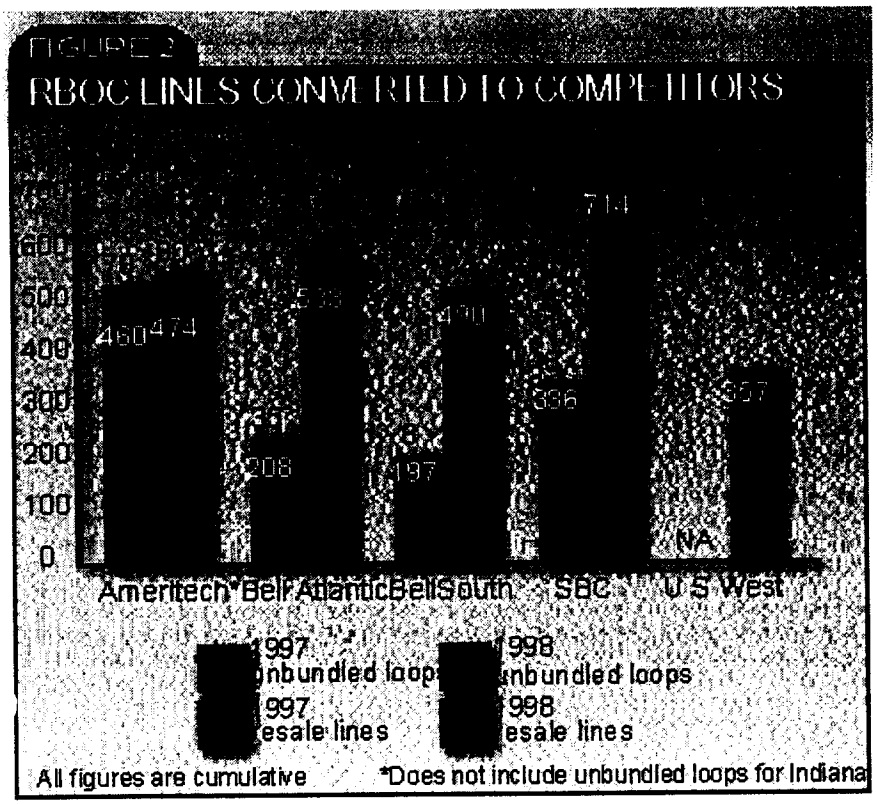
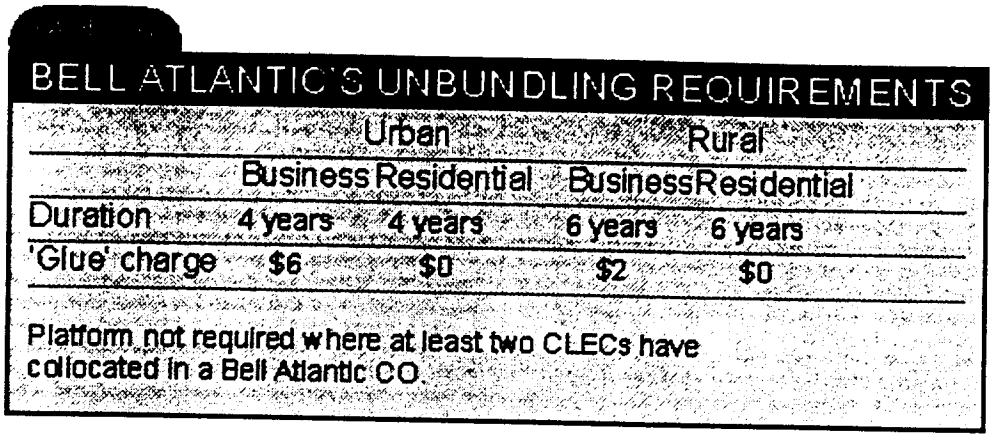


FIGURE 2
RBOC LINES CONVERTED TO COMPETITORS
600
500
400
300
200
100
0
460
474
208
470
714
886
NA
Ameritech
Bell Atlantic
BellSouth
SBC
U S West
1997
unbundled loops
997
esale lines
1998
unbundled loops
998
esale lines
All figures are cumulative
*Does not include unbundled loops for Indiana

Cover Story Figure



BELL ATLANTIC'S UNBUNDLING REQUIREMENTS

	Urban		Rural	
	Business	Residential	Business	Residential
Duration	4 years	4 years	6 years	6 years
'Glue' charge	$6	$0	$2	$0

Platform not required where at least two CLECs have collocated in a Bell Atlantic CO.

BACK TO COVER STORY