ATTACHMENT A

INTERSTATE SWITCHED ACCESS CHARGES

A NATIONAL SURVEY

A PUBLIC POLICY ANALYSIS OF INTERSTATE SWITCHED ACCESS CHARGES, INCLUDING A SURVEY OF 1,435 INCUMBENT LOCAL EXCHANGE CARRIER TARIFFED RATES

PREPARED FOR:

ALTS

ASSOCIATION FOR LOCAL TELECOMMUNICATIONS SERVICES

PREPARED BY:

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EXECUTIVE SUMMARY

STUDY OBJECTIVE:

The objective of this analysis is to provide a more fact intensive basis upon which switched access charges assessed by Competitive Local Exchange Carriers (CLECs) can be compared to prevailing switched access charges currently assessed by Incumbent Local Exchange Carriers (ILECs) under Federal Communication Commission (FCC) approved tariffs.

STUDY METHODOLOGY:

A total of 1,435 ILEC tariffs were analyzed in an effort to better understand the range of switched access charge levels that an Interexchange Carrier (IXC) might encounter in the provision of interstate long distance service. For purposes of this analysis, all 1,435 ILECs studies were grouped logically into three categories:

(a) Regional Bell Operating Companies (RBOCs), GTE, and Sprint;
(b) National Exchange Carrier Association (NECA) companies;
(c) Independent companies that do not participate in NECA FCC Tariff No. 5.

The switched access rate compilation in this study includes the usage sensitive rate elements faced by IXCs for connecting at the ILEC tandem and using the ILEC's shared transport services. Also included are the flat-rated Presubscribed Interexchange Carrier Charges (PICCs). The PICCs are converted to per minute of-use (MOU) charges so that for each LEC a total composite, per MOU interstate switched access rate can be established. By constructing a *composite per MOU rate* for each ILEC, the study considers the *actual price* paid by IXCs for originating and terminating their interstate traffic on incumbent LECs. The study establishes the actual per MOU prices paid by IXCs as the proper basis on which CLEC switched access rates should be compared.

SUMMARY OF STUDY RESULTS

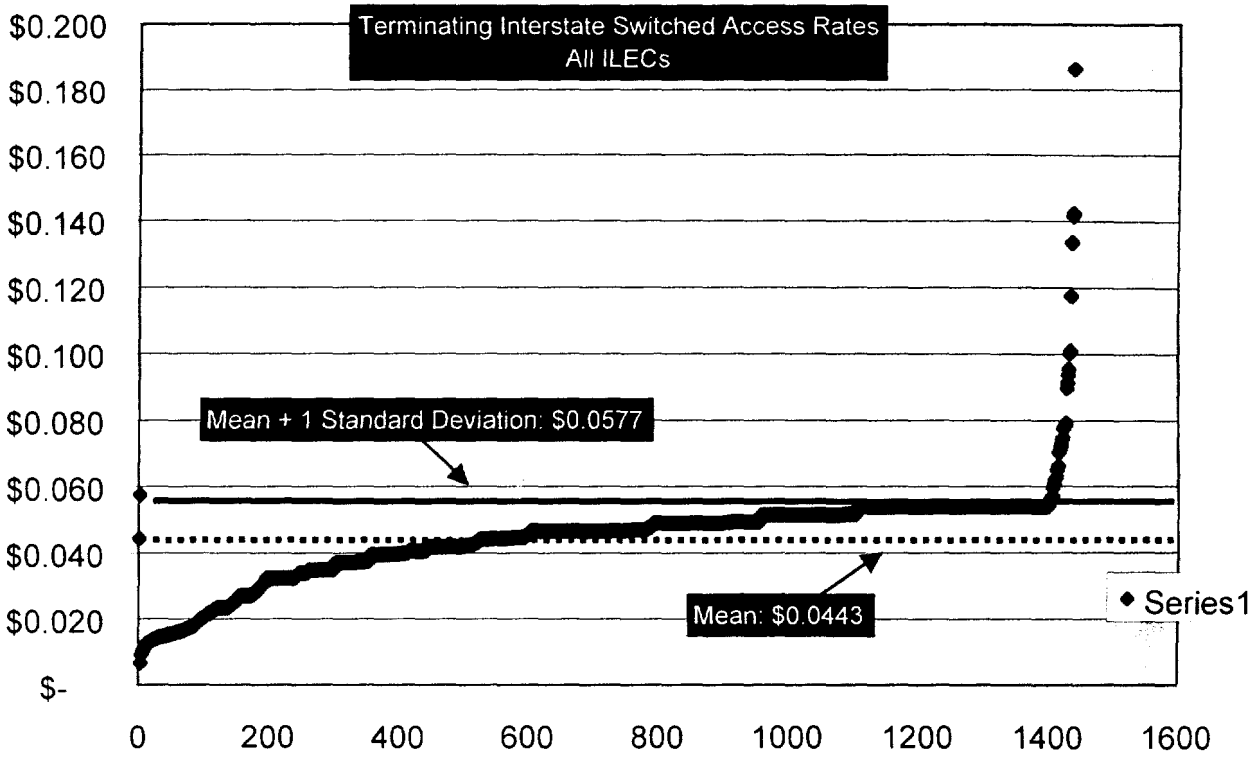
Analysis of the data shows that significant variation exists among the tariffed interstate switched access rates of the 1,435 ILECs studied. Rates range from a low of $0.009 per MOU to a high of $0.189 per MOU. The graph on the following page summarizes the composite per MOU terminating interstate switched access charges for the aforementioned companies in *ascending* order. Also shown on the graph is the average per MOU terminating switched access rate and the average plus one standard deviation. The numbers in the graph are summarized as follows in the table below:

Mean of 1,435 ILECs	$0.0419	$0.0443
Standard Deviation	$0.0125	$0.0134
Mean *plus* 1 Standard Deviation	*$0.0544*	*$0.0577*

Given the degree of variation in the switched access rates of the ILECs, it appears that a reasonable benchmark for the CLECs' interstate switched access rates may be established at a level no higher than $0.058 per MOU.

This study also discusses that the CLECs' cost structure, in many regards, has more in common with the cost structure of smaller ILECs, such as the NECA companies, than with that of larger ones. It is for this reason, among others, that the aforementioned upper limit for a reasonable benchmark is based on the unweighted average of ILEC switched access rates rather than on the weighted average of such rates. To be sure, the latter measure is too heavily dominated by a small number of large ILECs to be relevant to the purposes at hand.

All company tariffs and other back-up information can be found on the CD-ROM accompanying this study.



Graph: Terminating Interstate Switched Access Charges in Ascending Order

ILECs' ACCESS CHARGES FORM A REASONABLE BASIS FOR ESTABLISHING A BENCHMARK LEVEL FOR CLEC CHARGES

In an effort to establish a benchmark for presumptively reasonable interstate switched access charges for CLECs, this study identifies the rates charged by 1,435 ILECs across the country. Specifically, this study identifies the most current interstate switched access charges for three categories of ILECs. They are:

1. RBOCs, GTE, and Sprint;
2. NECA companies; and
3. Independent companies that do not participate in NECA FCC Tariff No. 5.

RBOCs, GTE and Sprint Companies

The interstate access charges for the RBOCs, GTE and Sprint were gathered form each company's respective tariffs. The following rate elements were collected for each company: [1] carrier common line (originating and terminating; [2] local end office switching; [3] transport interconnection charge; [4] information surcharge; [5] end office shared port; [6] tandem switched transport termination; [7] tandem switched transport facility; [8] common transport multiplexing; [9] tandem switching; and [10] the PICC charges. The access charges for these companies are found in the accompanying supporting information section of this document as well as in the Excel workbooks. For weighting purposes, access line information was gathered from the June 1999 Federal State Joint Board Monitoring Report.

NECA Companies

The interstate access charges for the NECA companies were gathered from NECA's Interstate Access Tariff Number 5. The following rate elements were collected for each company: [1] carrier common line (originating and terminating; [2] local end office switching (including the appropriate rate band for each company); [3] transport interconnection charge (including the appropriate rate band for each company); [4] information surcharge; [5] tandem switched transport termination; [6] tandem switched transport facility; and [7] tandem switching. Respecting the NECA Interstate Access tariff, the Transport Interconnection Charge covers the costs associated with transport

that are not recovered by the other transport rate categories or by dedicated signaling (i.e. SS7) rates. Rate band information for each company was derived from section 17 of FCC Tariff Number 5. The access charges the NECA companies are found in the accompanying supporting information section of this document as well as in the Excel workbooks. For weighting purposes, access line information was gathered from the June 1999 Federal State Joint Board Monitoring Report.

As noted above, two rate elements in the NECA tariff have been banded as of January 1998. Those elements are local end office switching and the transport interconnection charge. The most recent seven rate bands for local end office switching and the most recent four rate bands for the transport interconnection charge were used in this analysis. Although the remaining rate elements contained within NECA Tariff Number 5 are billed on a nationwide average basis, the presence of seven rate bands for local end office switching and four rate bands for the transport interconnection charge result in twenty-eight potential composite rate element levels. Presentation of each of those levels is found in the accompanying supporting information section of this document as well as in the Excel workbook analysis accompanying this report. The range of those twenty-eight combinations, when expressed on a composite per minute of use basis for terminating access, is between $0.032508 and $0.054136.

The National Exchange Carrier Association was formed in 1983 by the FCC as a not-for-profit membership corporation that is responsible for, among other things, administration of FCC access charge plans. The access charges that long distance companies pay to access the local phone network to complete calls are delineated in tariffs written by NECA and are filed with the FCC by or on behalf of local telephone companies. NECA files access charge tariffs for some 1,150 local telephone companies that participate in either the traffic sensitive pool, or the common line pool, or both. For purposes of this analysis, 1,083 NECA companies were identified as participating in the traffic sensitive pool. Access charges for the remaining companies that are common line pool participants only were collected from their individual tariffs with the exception of the carrier common line rate element. NECA collects and validates cost and revenue data from these companies in order to monitor compliance with the rules and regulations of

the FCC. Revenues from access charges are distributed among pool members based on their costs of providing interstate access. The independent companies that comprise the NECA membership are subject to sale or mergers, hence the study areas and holding company designations may change over time.

Remaining ILECs: Independent companies that do not participate in NECA FCC Tariff No. 5.

For the remaining ILECs (i.e. those other than the RBOCs, GTE, Sprint and NECA companies), interstate access charges were gathered form each company's respective tariffs. The following rate elements were collected for each company: [1] carrier common line (originating and terminating; [2] local end office switching; [3] transport interconnection charge; [4] information surcharge; [5] tandem switched transport termination; [6] tandem switched transport facility; [7] common transport multiplexing; and [8] tandem switching. For weighting purposes, access line information was gathered from the June 1999 Federal State Joint Board Monitoring Report. The remaining ILEC tariffs are either filed individually by each company, or a group of tariffs for several unrelated companies are filed by consulting firms specializing in tariff development and management.

A compilation of the interstate switched access charges for the above three categories of ILECs provides a useful basis for evaluating the rates charged by CLECs. While it is true that the ILECs' prevailing switched access charges are regulated and reflect public policy objectives, the FCC has continuously promulgated rules that mandate a further alignment of these charges with costs and cost causation. For sure, the rate structure most recently mandated by the FCC is explicitly designed to reflect the traffic sensitive and non-traffic sensitive costs in the LECs' networks.[1] Further, though switched access charges are not yet determined based on forward-looking economic costs, they are based on booked costs incurred by companies in the provision of telecommunications

[1] See, *Access Reform First Report and Order*, 12 FCC Rcd 15982 (1997). For example, in paragraph 35, the FCC notes: "we reform the current rate structure to bring it into line with *cost-causation principles*, phasing out significant implicit subsidies. Second, we set in place a process to move the baseline rate level toward competitive levels." (Emphasis added.)

services. As such, a compilation of switched access rates charged by over 1,400 ILECs is relevant in an examination and evaluation of the rates charged by new entrants into local exchange markets.

Though the benchmark is established based on the rates of all companies, particular attention will be paid to some of the smaller ILECs. As will be discussed in more detail below, new entrants in the early stages of market entry may display cost characteristics that resemble smaller companies more than larger ILECs.

The tariffs for the RBOCs, GTE, and Sprint, the NECA companies, and the remaining ILECs used in the production of this analysis have been compiled into a national tariff database for interstate access charges. That database has been transmitted on CD-ROM along with this study narrative.

ALL PER MOU AND FLAT RATED CHARGES ARE CONSIDERED

For purposes of this study, it is important to consider all of the ILECs' interstate switched access charges for originating and terminating traffic. This includes the usage sensitive rate elements for connecting at the tandem and using the LEC's shared transport services as well as the flat-rated PICCs. The PICCs are converted to per minute of-use charges so that for each ILEC a total composite, per minute of use interstate switched access rate can be established. By constructing a composite per minute of use rate for each ILEC, the study reflects the actual price paid by IXCs for originating and terminating their interstate traffic on the ILECs networks. As noted, the study uses the actual per minute-of-use prices paid by IXCs as the basis for establishing a benchmark for when CLEC rates are reasonable.

The flat-rated PICC is translated into a per MOU charge for each of the ILECs. The resultant per MOU PICC is then added to the other per MOU charges to calculate the actual per MOU price paid by IXCs for originating and terminating interstate switched access traffic.

Specifically, the per MOU PICCs are calculated by using the carrier's relative proportions of primary residential lines, non-primary residential lines, single business lines, multiple business lines, and Centrex lines. First, based on the relative proportions of the carriers' access lines (by customer type), a composite PICC is calculated. That composite PICC, which represents the PICC that IXCs pay on average, is then translated into a per MOU charge by dividing it by the average monthly number of MOUs of interstate switched access calling. The resulting per MOU charge is referred to as the Composite per MOU PICC. It is added to the other per MOU charges.

THE CLECS' SWITCHING AND TRANSPORT FACILITIES PROVIDE TANDEM FUNCTIONALTY

In order to provide a relevant basis of comparison, the analysis studies the charges paid by IXCs for connecting at an ILEC's tandem and using the ILEC's shared transport in combination with end office origination/termination services. This methodology provides the most reasonable basis of comparison given that CLECs, unencumbered by an embedded architecture, typically enter the market with a distributed network architecture that substitutes longer transport routes for multiple switches and outside plant facilities while at the same time providing origination/termination services within geographic areas comparable to those served by ILEC tandems.

Though CLEC's generally don't deploy stand-alone Class 5 (end office) and Class 4 (tandem) switches, their distributed architecture provides similar origination and termination services across comparable geographic areas. By utilizing SONET nodes collocated in multiple ILEC central offices, CLECs often are able to serve a customer base spread across an entire state or LATA using a single, integrated end office and tandem switching platform.

The cost advantages of this architecture are that it minimizes the amount of switching investment required to serve a disaggregated customer base, both by minimizing the number of Class 5 local switches required as well as reducing the need for a stand-alone

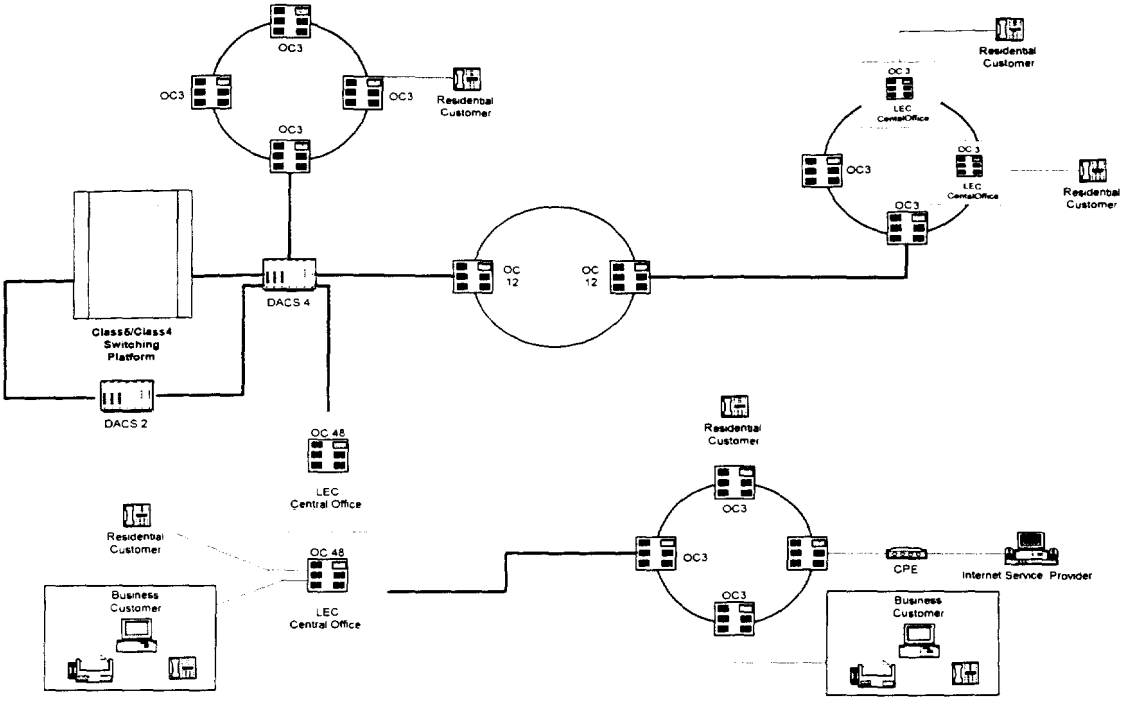
tandem switch. However, the downside is that this network architecture requires additional investments in transport, collocation and SONET nodes.

The CLEC distributed architecture generally also provides an IXC, via a single point of interconnection, originating and/or terminating access to a very large geographic area. Often this geographic area is comparable to, and even larger than, the area served by an ILEC's tandem switch.

As noted by the FCC in the context of reciprocal compensation for the exchange of local traffic, the above factors support a recognition that the call origination and call termination functionalities of the CLEC switch are comparable to those of the ILEC tandem switch.[2] The situation is, of course, no different for interstate switched access traffic. Here too, the CLEC switch often provides for call termination and call origination that is functionally equivalent to that offered to IXCs at the ILEC's access tandem. For these reasons, among others, this anlysis uses the ILECs' interstate switched access charges faced by IXCs for connecting at the ILEC tandem and using their shared transport services.

The following diagram depicts a typical CLEC network architecture and highlights the fact that it performs a function comparable to that performed by a typical ILEC tandem.

[2] See ¶ 1090 of the FCC's *Local Competition Order* which puts forth: "states shall consider whether new technologies (e.g., fiber ring or wireless networks) perform functions similar to those performed by an incumbent LEC's tandem switch and thus, whether some or all calls terminating on the new entrant's network should be priced the same as the sum of the transport and termination via the incumbent LEC's tandem switch. Where the interconnecting carrier's switch serves a geaographic area comparable to that served by the incumbent LEC's tandem switch, the appropriate proxy for the interconnecting carrier's additional costs is the LEC tandem interconnection rate."



CLECS' COST STRUCTURES DIFFER SIGNIFICANTLY FROM THE LARGE ILECS' COST STRUCTURES

In comparing the CLECs' switched access charges to those of the ILECs, one should recognize the differences between those two categories of companies. Most importantly, one should be careful not to automatically conclude that a CLEC is inefficient or that its access rates are unreasonable if it charges IXCs more for originating or terminating traffic than certain large ILECs do.

In a multi-product environment, one cannot evaluate the overall efficiency of a firm by focusing on a single product out of an array of the firm's product offerings. To properly explain differences in switched access rate levels, one should, at a minimum, consider the differences between the CLECs and ILECs network architectures and cost structures.

CLECs Use Optimally Efficient Facilities

In general, CLECs uses state-of-the-art, optimally efficient facilities. As discussed above, these facilities consist of state-of-the art switches and transport facilities, constructed to serve a target customer base consistent with the CLEC's specific market entry strategy.

CLECs Generally Experience Lower Levels Of Utilization For Switching and Transport Facilities

As discussed previously, CLECs typically purchase large switches, such as a Lucent 5ESS, or Nortel 500, capable of serving tens of thousands of customers. Likewise, the SONET facilities constructed to transport traffic to end-users and other carriers are often capable of carrying large amounts of traffic. However, most CLECs must place these facilities substantially before they are able to acquire sufficient numbers of customers to achieve levels of utilization for which the facilities are designed. This means that over the ramp-up period, the utilization of CLECs facilities is substantially below full capacity.

This situation contrasts sharply with that of the ILECs. Often, when an ILEC places a new digital switch, the company does so to replace an old analog switch that is already serving a large number of customers. In fact, old analog switches, such as the 1AESS, may serve large numbers of customers, comparable to the number that a fully loaded digital switch serves (though obviously the anlog switch cannot provide the same functionalities). This means that from the moment a digital switch is installed, the ILEC will experience near full capacity utilization on such switches. The ILEC is also capable of achieving high utilization rates on existing digital switches in wire centers that are experiencing growth. In such situations, the ILEC will often grow the digital switch by installing additional switch modules in the same central office, or it will place remotes that are served by the existing host switch. In either case, the overall level of switch utilization will be high. The same is true for the ILECs transport facilities. Here too, ILECs reap the benefit of having a mature network that serves a large, existing customer base so that new facilities can be added incrementally as new demand is anticipated to materialize.

Thus, even though CLECs may employ optimally efficient, state-of-the-art facilities, they are likely to experience average utilization rates -- over the economic life of the facilities -- below those enjoyed by the larger ILECs.

Long Distance Traffic Is A Much More Significant Cost Driver For CLECs

Most of the calls on the ILECs' networks are local in nature. Thus, the ILEC's network is largely designed to accommodate intra-office and interoffice on-net local calling.

By contrast, CLECs have very little on-net calling. Most of their traffic is off-net, and much of it is long distance. As a result, the CLEC's network is designed to accommodate a much larger percentage of off-net, long distance calling. That is, originating and terminating long distance calls are a much more significant cost driver in the CLEC network than in the ILEC network.

CLECs Tend To Serve A Sparse Customer Base

By and large, CLECs will operate in urban, or sub-urban environments that are densely populated. However, while a high population density in these areas translates into a dense customer base for the large, urban ILECs, the CLECs may yet be faced with customers that are spread-out over a fairly large area. Once CLECs enter a particular geographic market, they often tend to serve customers over an area that is roughly comparable to the local calling areas of the ILEC. However, given the limited scope of their facilities, among other factors, they will only serve a fraction of the customers in such areas. Thus, if the CLEC's customer base is expressed on a customer-per-square-mile basis, it is sparse relative to that of the urban ILECs.

CLECs Customers Tend To Be Located At A Greater Distance From The CLEC Switching Facilities

Some of the shortest loops for ILECs are found in their densely populated urban serving areas. However, even in those densely populated areas, CLEC customers tend, on average, to be located at substantial distances from the CLEC's serving central office.

Once again, the distributed network architecture employed by CLECs allows customers at great distances from the central office to be connected via transport facilities. The situation is not substantially changed when, under the provisions of the Telecommunications Act of 1996, the CLEC uses the ILEC's unbundled loop facilities. When unbundled loops are used, the CLEC still needs to extend those loops with transport facilities connecting their own switch to their collocation location in the ILEC's central office.

CLECs May Have a Greater Ratio of TS-To-NTS Costs

As discussed previously, CLECs' do not have a typical line-side to their switching facilities. Instead, CLECs tend to use SONET nodes collocated in multiple ILEC central offices in order to serve their customers that may be spread across an entire state or LATA while using only a single, integrated end office and tandem switching platform. That is, the equivalent of the ILEC's main distribution frame (MDF) and the switch line-side is for the CLECs found in the collocation locations where the SONET nodes connect to their end-user lines. Unlike ILECs, many CLECs have few, if any, line-cards in their Class 5 switches.

Given that a large portion of the non-traffic sensitive (NTS) costs of a switch stems from the line-side of the switch, the CLEC switch a larger percentage of the CLEC switching costs may be traffic sensitive (TS). The percentage of TS costs in originating and terminating long distance calls may be further increased due to the fact that, as discussed, the CLEC's forward-looking, state-of-the-art networks substitute additional transport facilities, with usage sensitive costs, for switching facilities. Thus, compared to the ILECs, the CLECs will have a greater ratio of TS-to-NTS cots.

In sum, lower levels of utilization, a sparse customer base at a greater distance from the central office, and a greater ratio of TS-to-NTS costs, all – individually, but certainly in combination – suggest that switched access charges for some CLECs could be in excess of those for the ILECs, particularly in the early stages of their network deployment. However, this in no way suggests that those CLECs are inefficient or otherwise charge unreasonable rates.

CERTAIN OF THE CLECS' COST CHARECTERISTICS ARE SIMILAR TO THOSE OF THE SMALLER ILECS

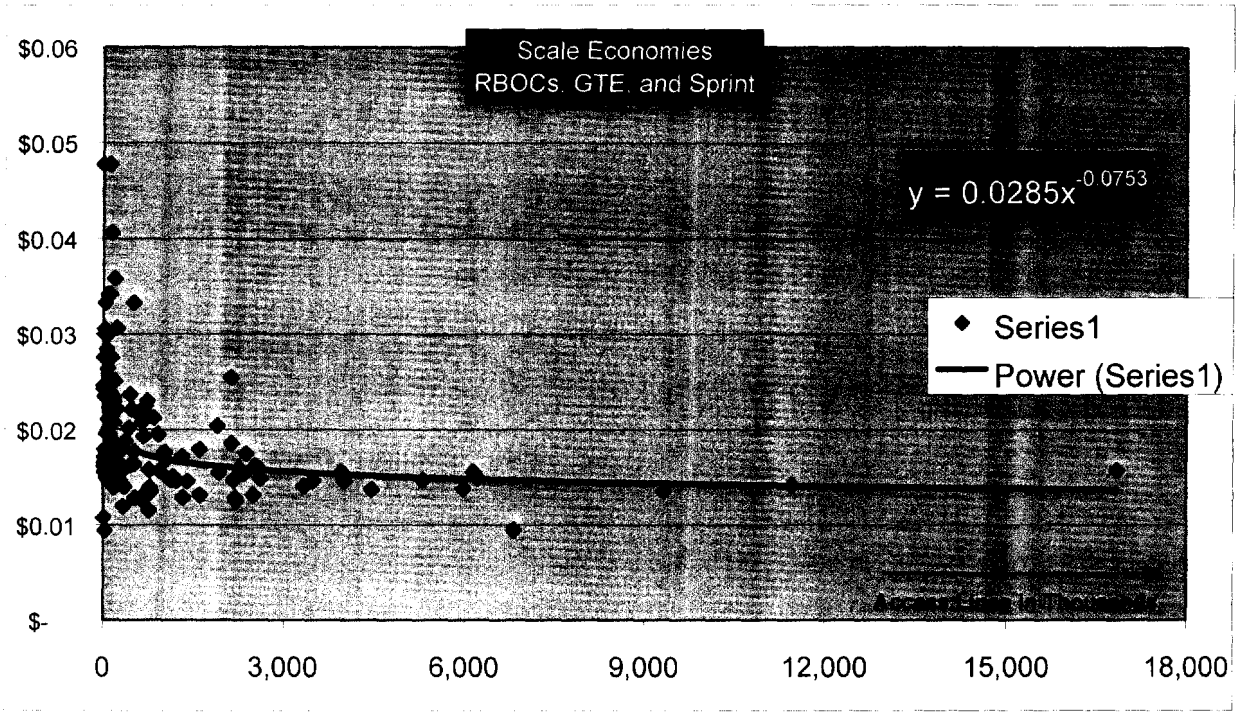
As discussed above, there are a number of reasons for why the CLECs cost structure is different from that of the larger ILECs. Many of those reasons, though not all, have to do with the fact that the CLECs, at this stage of their development, lack the economies of scale enjoyed by larger ILECs. In this regard, CLECs have more in common with smaller ILECs, such as the NECA companies and independents.

Obviously, the comparison between small rural ILECs and CLECs that operate mostly in urban areas has is limitations. Nevertheless, there are a number of significant similarities that are worth noting. The similarities between CLECs and smaller ILECs, such as NECA companies, are the following:

- Both CLECs and smaller, rural LECs may have lower levels of switch utilization. Due to the lumpiness of capital, neither type of company may have a sufficiently large customer base to fully utilize switch facilities.
- CLECs, like smaller, rural LECs with longer than average loops, serve customers at great distances from their switching facilities.
- Both CLECs and smaller rural LECs may serve a sparse customer base. This is true even though the CLECs tend to operate in densely populated areas as long as the customer base is expressed on a number-of-customer-per-square-mile basis.

Thus, in some significant regards, the CLECs' cost characteristics are comparable to those of smaller rural LECs, such as the NECA companies.

While the data are not unambiguous, there appears to be a pattern correlating the level of switched access charges to the size of the ILEC's operations, measured in terms of customer access lines. The graph below shows how the ILECs' (RBOCs, GTE and Sprint) interstate switched access charges are correlated to the size of the ILECs, measured in number of access lines served.



Graph: Terminating Interstate Access Rates plotted against Access Lines for RBOCs, GTE and Sprint

Obviously, there are many factors influencing the determination of interstate switched access charges. Nevertheless, it appears that the larger the company's operations, the lower are its interstate switched access charges. This suggests that the economies of scale enjoyed by the RBOCs (because of the maturity of their networks and their larger, more densely populated serving areas) facilitate lower switched access charges.

This relationship between size and the level of costs has also been noted by the FCC itself:

> The Commission has recognized that smaller telephone companies have higher local switching costs than larger incumbent local exchange carriers (ILECs) because the smaller companies cannot take advantage of certain economies of scale.[3]

While this study provides a basis for establishing a benchmark for presumptively reasonable CLEC interstate switched access rates by reviewing the rates of all ILECs, it would not have been unreasonable to focus more specifically on the rates charged by smaller LECs, such as the NECA companies.

ACCESS CHARGE CALCULATIONS AND COMPILATIONS CONSIDER TWO SCENARIOS

For each category of companies, two averages are calculated and reported: a weighted and an unweighted average. The weighted average is calculated by using the total access lines served by each company as weights. Obviously, since the larger RBOCs, such as Pacific Bell, serve tens of millions of access lines, their access rates dominate the average, disguising the variations in access charges for smaller companies. In view of this, the study also calculates an unweighted average of interstate switched access charges for each of the categories of companies. The unweighted average is calculated by simply summing up the access charges of all companies in a category and averaging them without weights.

The results of these calculations are shown in the three tables presented on the following page.

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[3] *National Exchange Carrier Assn., Inc. proposed Modifications to the 1998-99 Interstate Average Schedule Formulas*, 13 FCC Rcd 24225, 1998 FCC LEXIS 6539 (Dec. 22, 1998) at n. 6.

RBOCs	Amount
Composite Weighted Average Rate - Originating	$ 0.018497
Composite Weighted Average Rate - Terminating	$ 0.015454
Composite Unweighted Average Rate - Originating	$ 0.027844
Composite Unweighted Average Rate - Terminating	$ 0.019490

NECA Companies	Amount
Composite Weighted Average Rate - Originating	$ 0.041303
Composite Weighted Average Rate - Terminating	$ 0.044605
Composite Unweighted Average Rate - Originating	$ 0.044281
Composite Unweighted Average Rate - Terminating	$ 0.047581

Independent Companies (No Participation in NECA Traffic Sensitive Pool)	Amount
Composite Weighted Average Rate - Originating	$ 0.028643
Composite Weighted Average Rate - Terminating	$ 0.033947
Composite Unweighted Average Rate - Originating	$ 0.038588
Composite Unweighted Average Rate - Terminating	$ 0.042912

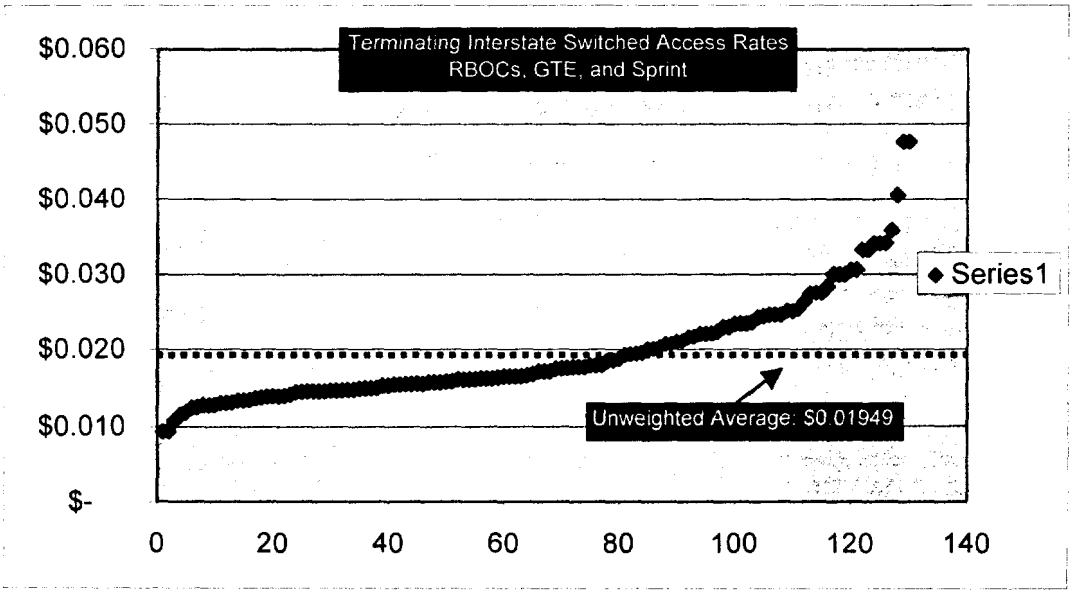
GRAPHS DEPICTING INTERSTATE SWITCHED ACCESS RATES FOR RBOCS, GTE, SPRINT, NECA COMPANIES AND REMAINING INDEPENDENT ILECS.

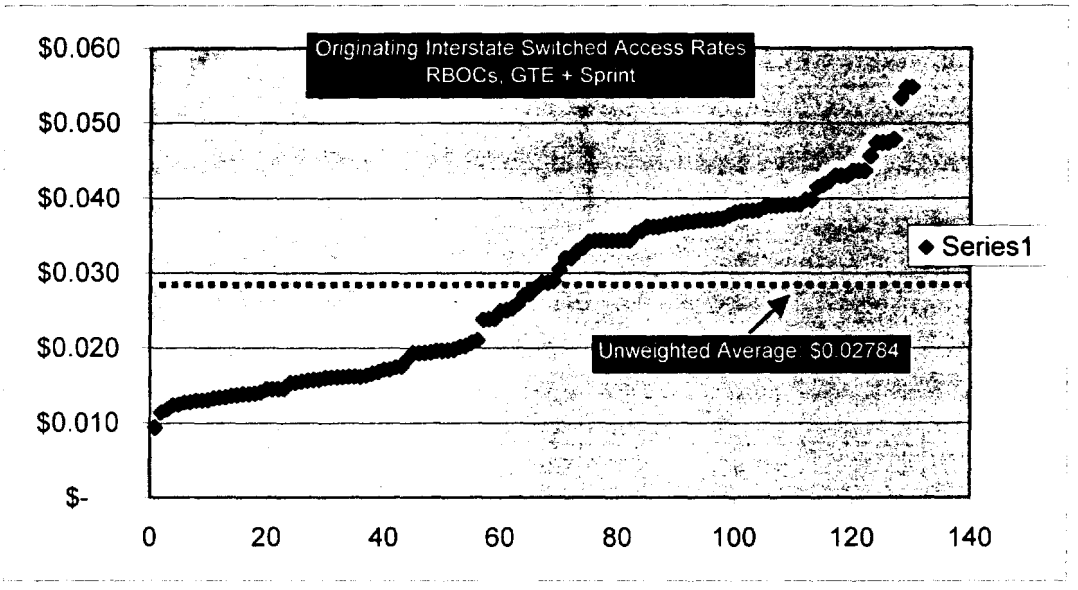
Reasonable benchmark rates may be established by using the *Unweighted Average* rates and the *Composite per MOU PICC*, which reflects a weighted mix of residential and business lines. Shown below are a series of graphs that depict the level of terminating and originating interstate switch access rates *in ascending order* for three groups of companies. As previously discussed the three categories are the following:

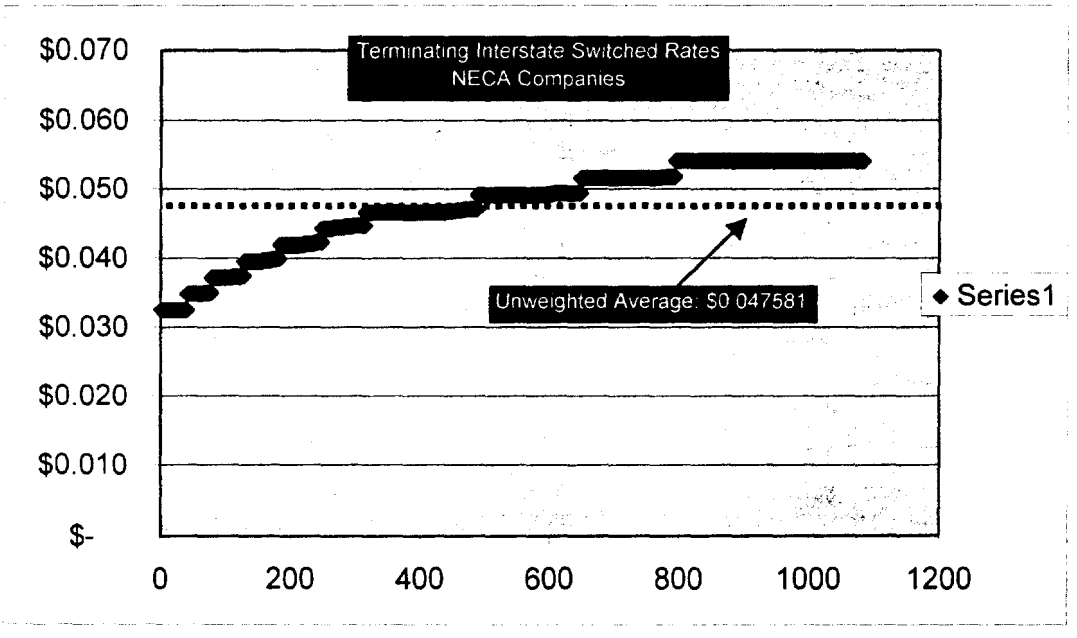
(a) RBOCs, GTE, and Sprint;

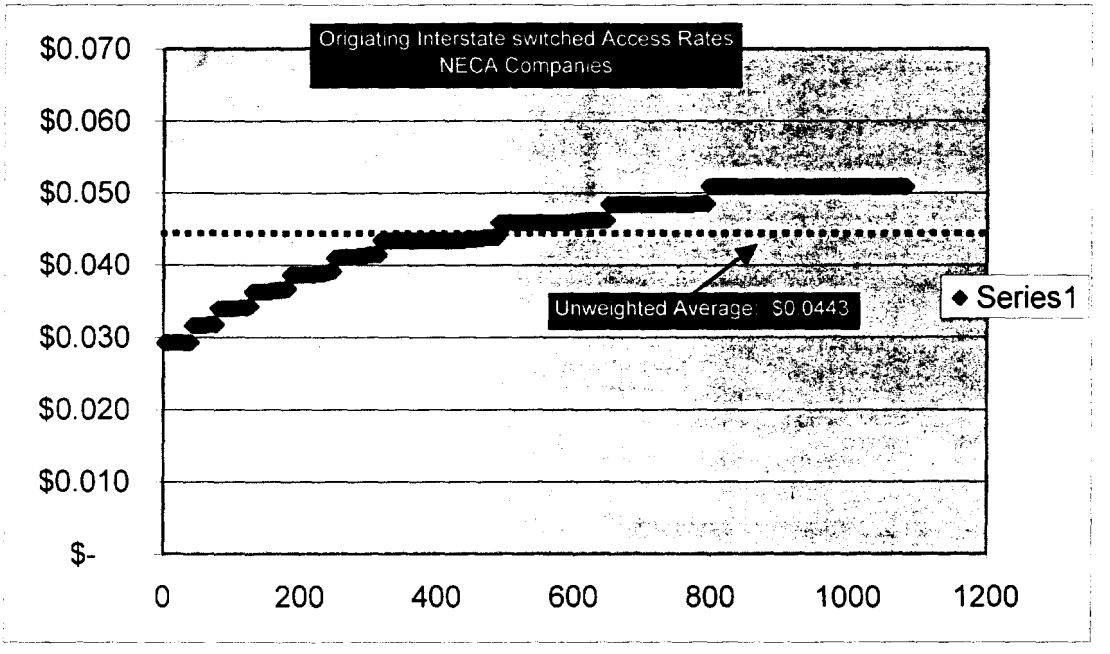
(b) NECA companies;

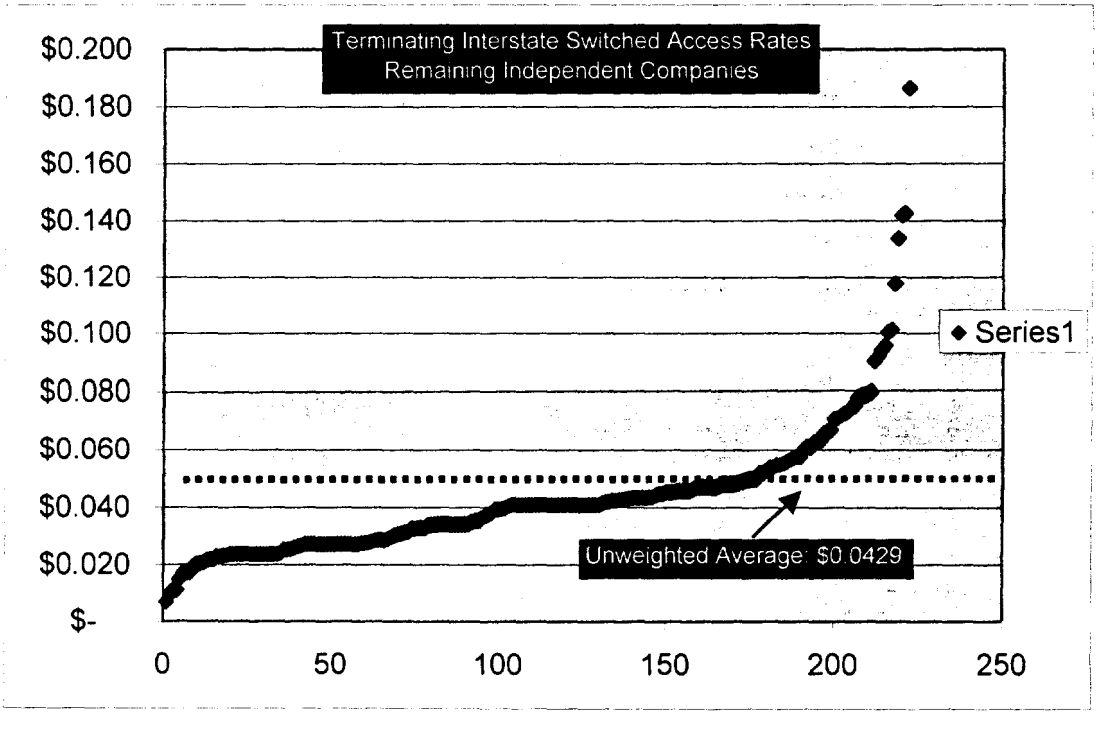
(c) Remaining independent companies that do not participate in NECA FCC Tariff No. 5.

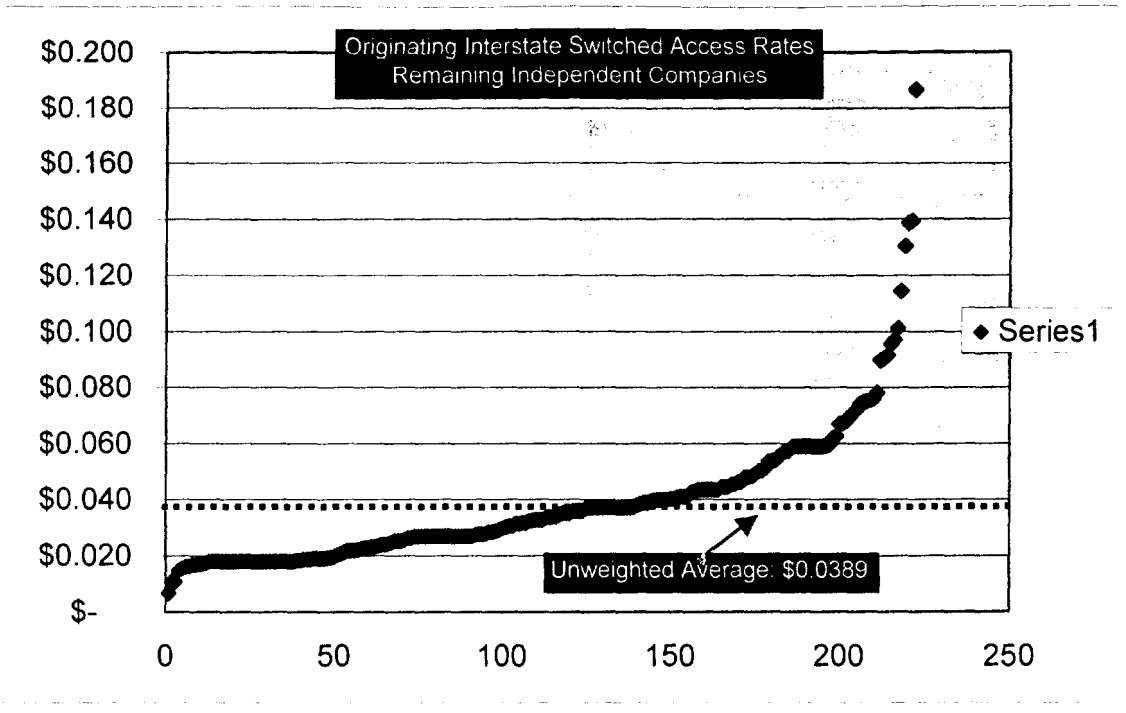



Originating Interstate Switched Access Rates
RBOCs, GTE + Sprint
$0.060
$0.050
$0.040
$0.030
$0.020
$0.010
$-
0
20
40
60
80
100
120
140
Series1
Unweighted Average: $0.02784


Terminating Interstate Switched Rates
NECA Companies
$0.070
$0.060
$0.050
$0.040
$0.030
$0.020
$0.010
$-
0
200
400
600
800
1000
1200
Series1
Unweighted Average: $0.047581


Originating Interstate switched Access Rates
NECA Companies
$0.070
$0.060
$0.050
$0.040
$0.030
$0.020
$0.010
$-
0
200
400
600
800
1000
1200
Unweighted Average: $0.0443
Series1

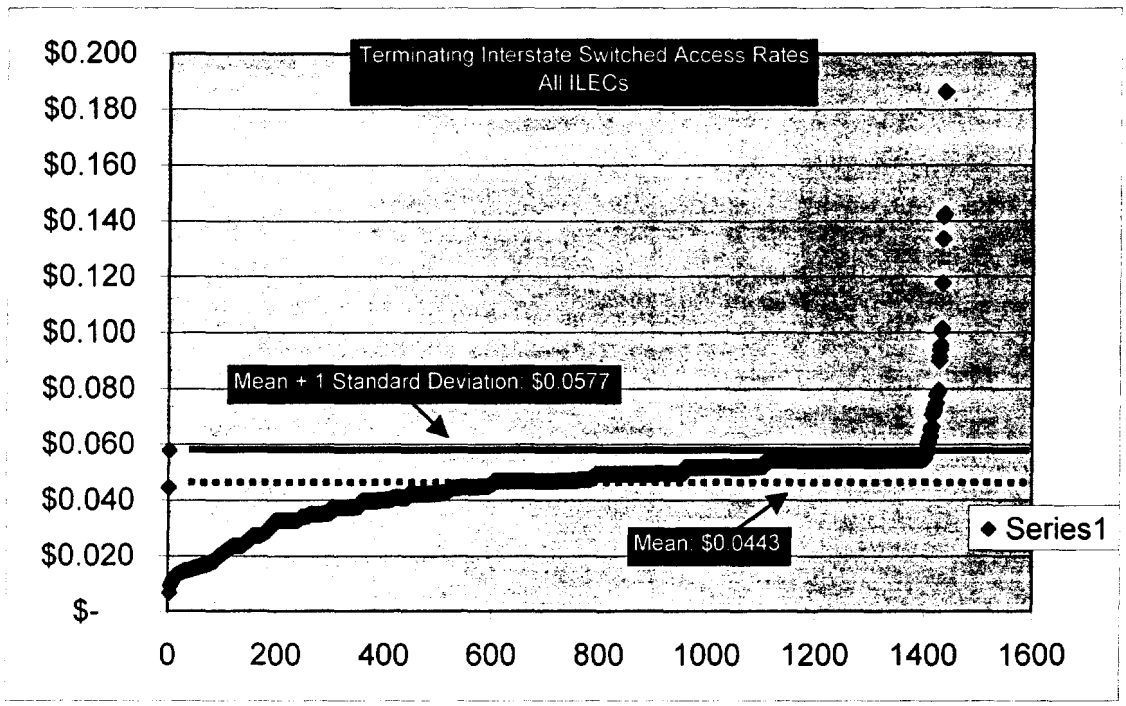

Terminating Interstate Switched Access Rates
Remaining Independent Companies
$0.200
$0.180
$0.160
$0.140
$0.120
$0.100
$0.080
$0.060
$0.040
$0.020
$-
0
50
100
150
200
250
Unweighted Average: $0.0429
Series1



The above graphs show that there exists a wide variety of interstate switched access rates across the country. Of particular interest to policy makers, however, should be the terminating switched access charges. The FCC has expressed concern that the CLECs' terminating switched access charges may experience less competitive pressures than their originating switched access charges. To facilitate understanding of the level of terminating switched access rates across the country, the graph below shows those rates, *in ascending order* for all 1,435 ILECs examined in this study. Also indicated on the graph is the unweighted average of those rates, $0.0443, and the average plus one standard deviation, $0.0577.

In this situation, the standard deviation, which provides a measure of the average deviation from the mean, is a useful statistic in evaluating the variation in access rates across companies. The standard deviation for the access rates of 1,435 companies is

$0.0134. If the access rate levels were distributed as a normal distribution,[4] slightly more than 80% of the access rates would fall below the upper limit of the average plus one standard deviation. As such, the average plus one standard deviation, $0.0577, may serve as a benchmark for reasonable CLEC interstate switched access charges.



CONCLUSION

This study has analyzed the originating and terminating interstate switched access rates of 1,435 ILECs in an effort to establish a basis for comparison with the rates assessed by the CLECs. As is evident from the graphs presented in this study, access rates vary widely across states and companies. Given the degree of variation that exists, it appears that a reasonable benchmark for the CLECs' interstate switched access rates may be established at a level no higher than $0.058 per MOU.

[4] The distribution of access rates is almost, but not quite, a normal distribution. When plotted, a bell shaped curve emerges, though there are some irregularities in the tails of the distribution. Approximately 81% of the access rates fall below the upper limit of the average plus one standard deviation.