TAB A

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	CC Docket No. 01-338
	)	
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	CC Docket No. 96-98
	)	
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	CC Docket No. 98-147

DECLARATION OF RICHARD N. CLARKE
ON BEHALF OF AT&T CORP.

I. QUALIFICATIONS

1. My name is Richard N. Clarke. My business address is 295 North Maple Avenue, Basking Ridge, NJ 07920. I am the same Richard N. Clarke that filed a declaration on behalf of AT&T Corp. ("AT&T") in this proceeding on April 5, 2002.

II. PURPOSE AND CONCLUSIONS OF AFFIDAVIT

2. The purpose of this affidavit is to examine empirically the linkages that may exist between the decision of a competitive local exchange carrier ("CLEC") to deploy its own local facilities versus use local facilities leased from the incumbent local exchange carrier ("ILEC"). In particular, several ILECs and other commenters

(SBC at 7-8; Verizon at 4; Qwest at 13; PF&F at 27) have alleged that the availability of leased local facilities from the ILECs has, and will, dampen CLECs' incentives to deploy their own facilities. Thus, they advocate that the Commission should restrict the availability of leased local facilities such as unbundled network elements ("UNEs") and thereby stimulate the CLECs to increase their investments in owned facilities.

3. This Declaration reports on an empirical study that I performed as to whether AT&T's ability to lease local network facilities from the ILECs has inhibited or enhanced deployments of its own local network facilities. Based on the several relevant AT&T data series that I have been able to obtain, I find no empirical support for the ILEC claim that the availability of their local facilities through lease has reduced the amount of own network deployment by a CLEC such as AT&T.[1] Indeed, these AT&T statistical results suggest that it is much more likely that the *opposite* is the case: *greater* CLEC use of leased facilities is associated with *greater* deployment of their own facilities.

III. STUDY DATA AND PROCEDURES

4. I collected cross-sectional (state by state) data representing AT&T's use of facilities leased from the ILECs for its local network entry, as well as data representing AT&T's deployment of its own local facilities.

[1] Based on inspection of the Commission's recent "Local Telephone Competition" reports, AT&T believes that it is one of the largest, if not the largest, CLEC in the United States.

5. The data on AT&T's use of facilities leased from the ILECs for its provision of local services are from AT&T's 2002 "Connectivity" budget.[2] These data provide, by state, AT&T's 2002 budgeted expense payments to ILECs for all elements of local connectivity.[3] These expenses include payments that AT&T makes to the ILECs for:

- Total service resale;
- Dedicated tails (*i.e.*, high capacity leased lines used to provide connectivity from ILEC local switches out to large customer locations);
- Collocation associated with local interconnection;
- Dedicated infrastructure (*i.e.*, high capacity leased facilities used to carry local traffic between AT&T local switches or network nodes and ILEC local and tandem switches, as well as leased ILEC multiplexing and cross-connect facilities needed to groom AT&T local interconnection circuits);
- Mutual compensation;
- Toll costs (*i.e.*, payments made to the ILEC to terminate intraLATA toll traffic originated by AT&T local customers);
- UNE-P;
- UNE-L;
- Other (*e.g.*, payments made to the ILEC for local transit services, various data feeds, etc.).

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[2] These proprietary data were provided to me by AT&T's Local Service/Access Management organization. This organization is responsible for managing AT&T's procurement of local network facilities from local exchange carriers.

[3] While historical data on AT&T's actual expense payments to the ILECs for local connectivity may be a preferable measure, AT&T's accounting systems generally commingle local connectivity expense payments with payments AT&T makes to the ILECs for traditional long distance access services. Thus, these historical data are not as useful to discern AT&T's use of leased facilities to provide local services.

6. These local connectivity expenditures are not just for UNEs, but also include other ILEC facilities that are leased by AT&T for local connectivity purposes. Thus, in addition to strict UNEs, these expenditures also include items such as collocation, special access, and other related expenses.[4] It is clearly appropriate to include these expenses in addition to UNE expenses. First, AT&T often must purchase items like special access for local interconnection purposes because the ILEC refuses to sell AT&T the equivalent facility as a UNE. Second, many UNEs (such as the unbundled loop) simply require the concomitant purchase of certain of these items like collocation. Thus, these ancillary facilities should be accounted for as well as direct UNE purchases. Finally, because the purpose of this analysis is to test the ILEC-advanced hypothesis that the availability of leased facilities discourages owned facilities, it matters little whether the leased facilities are strictly UNEs, are inseparably integrated with UNEs, or are the functional equivalents of UNEs. The key unifying characteristic of all of the facilities included in my data is that they are leased from the ILEC in order to allow AT&T to offer local services to its customers.

7. I used several different data series to represent AT&T's deployment of owned local facilities in a state.[5] One series represents the number of Class 5 local

[4] While some of these items, such as special access, are also purchased by AT&T to provide long distance access, only AT&T's budgeted purchases of these dual-use items for local connectivity purposes are included in these data.

[5] The proprietary data series underlying these items was also provided to me by AT&T's Local Service/Access Management organization. These data were generally reported in the Declaration of Michael E. Lesher and Robert J. Frontera attached to AT&T's initial comments in this proceeding on April 5, 2002.

switches that AT&T has placed in that state.[6] The second series is the number of DS1 switched line terminations that are active on these Class 5 local switches. Because the number of line terminations can vary greatly from switch to switch, this measure is likely a more accurate index of the degree of local switching deployment that AT&T has made in a state than is the simple number of switches in that state.[7] The third series is the number of local fiber route miles that AT&T has installed in a state.

8. To eliminate biases resulting from the size of a state (*i.e.*, because New York is more populous than Rhode Island, it is likely that AT&T has both more owned and more leased local facilities in New York than in Rhode Island), I normalized

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[6] These include AT&T Local Network Services switches as well as switches associated with providing cable telephony (*e.g.*, former MediaOne local switches). This series does not include switches providing AT&T Digital Link service. These latter switches are really tandem 4ESS switches whose principal function is to provide AT&T's long distance services, but have been modified to support local calling for customers deploying advanced PBXs or their equivalent. Although capable of originating and terminating local calls, these switches fail to have full Class 5 functionality and flexibility.

[7] AT&T local switches generally collect their lines from three sources. The first is from owned high capacity fiber loops hung directly off the switch. The second is from UNE loops hung off of distant ILEC central offices that have been aggregated to the DS1 level and sent to the AT&T local switch via digital loop carrier ("DLC") remote terminals or other multiplexing equipment collocated at these distant ILEC central offices. And the third is from DS1 or higher special access equivalents to UNE Loop-Transport combinations. Thus, virtually all "lines" served by AT&T local switches are DS1 lines, and not analog POTS lines. (Indeed, hot cut problems make it all but impossible for AT&T to lease analog voice grade lines from ILECs). But because both the fiber DS1 loops and DLC and special access trunks terminating at AT&T local switches are likely to be incompletely loaded (*i.e.*, carry less than 24 active voice grade circuits), the number of active voice grade equivalent lines served by AT&T local switches is well less than 24 times the number of DS1 line terminations on these switches.

each of these series by the July 2001 population of the state.[8] Thus, I have three normalized measures of AT&T local facilities deployment in a state (number of switches per million population "swMpop," number of DS1 switch terminations per million population "termMpop" and number of local fiber route miles per million population "fibMpop"), and one normalized measure of AT&T's expenditures on leased local facilities in a state (million dollars of leased local connectivity budget expense per million population "LcbudMpop").

9. Finally, because my variable representing AT&T's use of leased local facilities in a state measures expenditures on such facilities, and not the absolute volume of these leased facilities, it is useful to control for the effect of the *prices* of these facilities on their budgeted expenditure. This may be done in two ways. The first is to deflate the measure of leased facilities expenditures by an index of leased local facilities prices. The second is to add an index of leased local facilities prices as an independent variable in addition to the expenditure independent variable. I use each of these controls, both separately and in tandem, to ensure that the relationship between the degree of deployment of physical facilities and degree of use of leased physical facilities is measured accurately. I use the price of an average residential UNE-P in the state ("UNEPrice") as an index for the price of local facilities leased from the ILEC.[9] These values were developed by

[8] I also tested normalizations using the total number of loops in the state and the number of Regional Bell Operating Company loops in the state. Changing the normalizing variable did not alter appreciably any of the statistical results.

[9] Note that while the collection of local facilities included in a residential UNE-Platform (*e.g.*, loop, switch port and usage, shared transport, signaling, data feeds and amortized nonrecurring (continued . . .)

AT&T assuming current (as of June 2002) UNE prices and volumes of traffic generated by residential customers in the state.[10]

IV. STATISTICAL RESULTS

10. I performed ordinary least squares ("OLS") regressions of each of the three dependent variable measures of AT&T's own local facilities deployment in a state on AT&T's 2002 budgeted expenditures for leased local facilities in that state – controlling for the influence of leased facilities prices on these expenditures. Thus, the independent variables employed were the following combinations:

- Leased facilities expenditures per million population (LcbudMpop);
- Leased facilities expenditures per million population divided by the UNE-P price (LcbudMpop/UNEPrice ~ LeasedFacVol);
- Leased facilities expenditures per million population and the UNE-P price (LcbudMpop and UNEPrice);
- Leased facilities expenditures per million population divided by the UNE-P price and the UNE-P price (LcbudMpop/UNEPrice ~ LeasedFacVol and UNEPrice).

11. No matter what the specification, the econometric results are very similar:[11]

(. . . continued)
charges) may not match exactly the total profile of leased local facilities purchased by AT&T, the breadth of facilities included in a UNE-Pl make it likely the best available single surrogate price index.

[10] Because no residential UNE-P price data for Alaska and Hawaii were available to me, these states had to be dropped from the regression analysis. Thus, the analyses were performed with 49 valid observations.

[11] See the regression statistics provided in Exhibit 1 to this declaration for more detailed statistical reports.

2002 Data on Leased Facilities	*Regression on Dependent Variable:*		
Independent Variable(s) in Regression:	Local switches per million population	Local switch terminations per million population	Local fiber route miles per million population
LcbudMpop	Coeff: 0.109450 Std Err: 0.01324 |Prob| < 0.001 Adj R-Sq: 0.584	Coeff: 579.963 Std Err: 68.155 |Prob| < 0.001 Adj R-Sq: 0.598	Coeff: 7.7033 Std Err: 2.1422 |Prob| < 0.001 Adj R-Sq: 0.199
LeasedFacVol	Coeff: 1.889743 Std Err: 0.235705 |Prob| < 0.001 Adj R-Sq: 0.569	Coeff: 10180.59 Std Err: 1184.257 |Prob| < 0.001 Adj R-Sq: 0.603	Coeff: 119.1092 Std Err: 38.56005 |Prob| < 0.004 Adj R-Sq: 0.151
LcbudMpop **UNEPrice**	Coeff: 0.105045 Std Err: 0.014197 |Prob| < 0.001 Coeff: -0.00790 Std Err: 0.009014 |Prob| = 0.385 Adj R-Sq: 0.582	Coeff: 552.0792 Std Err: 72.74132 |Prob| < 0.001 Coeff: -50.006 Std Err: 46.18339 |Prob| = 0.285 Adj R-Sq: 0.599	Coeff: 6.517683 Std Err: 2.261996 |Prob| < 0.006 Coeff: -2.12626 Std Err: 1.436139 |Prob| = 0.146 Adj R-Sq: 0.219
LeasedFacVol **UNEPrice**	Coeff: 1.834675 Std Err: 0.258837 |Prob| < 0.001 Coeff: -0.005031 Std Err: 0.009399 |Prob| = 0.595 Adj R-Sq: 0.562	Coeff: 9827.48 Std Err: 1297.93 |Prob| < 0.001 Coeff: -32.2613 Std Err: 47.13177 |Prob| = 0.497 Adj R-Sq: 0.598	Coeff: 94.7735 Std Err: 41.50552 |Prob| < 0.027 Coeff: -2.223416 Std Err: 1.507191 |Prob| = 0.147 Adj R-Sq: 0.172

12. Regardless of which specification is chosen, the interpretation is the same. The coefficient for the independent variable measuring expenditure on leased local facilities (whether or not adjusted for leased facilities price levels) is always

positive and highly statistically significant – typically at confidence levels beyond the 99.9% level.[12] Thus, greater use of leased facilities is associated with greater deployment of owned facilities. Furthermore, when the price level of leased facilities is entered as an additional explanatory variable, it always shows its expected negative sign, but is not statistically significant.

V. CONCLUSION

13. These empirical analyses have demonstrated that AT&T's deployment of owned local facilities is strongly and positively related to its use of local network facilities leased from the ILEC. Thus, these results refute, at very high levels of statistical confidence, the validity of the "tough love" policies advocated by the ILECs (*i.e.*, encourage the CLECs to deploy more owned facilities by making UNEs less available – either through quantity restrictions or price elevations). Instead, these empirical results suggest that restricting the availability of leased facilities will only reduce owned facilities deployment by CLECs, and raising the prices of UNEs also will not result in greater owned facilities deployment by CLECs.

[12] While the fit of the regression equations using local fiber route miles per million population is not as good as that for local switches and local switch terminations, this is to be expected. This is because the amount of fiber route miles that are installed in a state is likely influenced by additional variables describing the geographic size and density of the service areas in the state.

VERIFICATION

I, Richard N. Clarke declare under penalty of perjury that the foregoing Declaration is true and correct.

Richard N. Clarke

Executed on July 16, 2002

EXHIBIT 1 – DETAILED REGRESSION STATISTICS

Independent Variable(s): *LCbudMpop*

Regression Statistics	
Multiple R	0.76962909
R Square	0.592328936
Adjusted R Square	0.583655084
Standard Error	0.376334149
Observations	49

Dependent Variable:
Local Switches per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	9.671596658	9.671596658	68.28902632	1.03199E-10
Residual	47	6.656487395	0.141627391		
Total	48	16.32808405			

Independent Vars.	*Coefficients*	*Standard Error*	*t Stat*	*P-value*
Intercept	0.087913223	0.064885504	1.354897745	0.18192713
LCbudMpop	0.109449648	0.013244602	8.263717464	1.03199E-10

Regression Statistics	
Multiple R	0.778718823
R Square	0.606403006
Adjusted R Square	0.598028602
Standard Error	1936.562298
Observations	49

Dependent Variable:
Local Switch Terminations per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	271562861.1	271562861.1	72.41148108	4.47029E-11
Residual	47	176262856.2	3750273.535		
Total	48	447825717.3			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	378.7917834	333.8916271	1.134475239	0.262348305
LCbudMpop	579.9632412	68.15484792	8.509493586	4.47029E-11

Regression Statistics	
Multiple R	0.464513826
R Square	0.215773095
Adjusted R Square	0.199087416
Standard Error	60.86752388
Observations	49

Dependent Variable:
Local fiber route Miles per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	47909.8355	47909.8355	12.93163417	0.000772879
Residual	47	174128.2068	3704.855463		
Total	48	222038.0423			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	33.589379	10.49445019	3.200680205	0.002458688
LCbudMpop	7.703314346	2.142155115	3.596058143	0.000772879

Independent Variable(s): *LeasedFacVol*

Regression Statistics	
Multiple R	0.760024757
R Square	0.577637631
Adjusted R Square	0.568651198
Standard Error	0.383055139
Observations	49

Dependent Variable:
Local Switches per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	9.431715799	9.431715799	64.2788532	2.39934E-10
Residual	47	6.896368254	0.146731239		
Total	48	16.32808405			

Independent Vars.	*Coefficients*	*Standard Error*	*t Stat*	*P-value*
Intercept	0.118397119	0.064236567	1.843142051	0.071619484
LeasedFacVol	1.889743129	0.235704956	8.017409382	2.39934E-10

Regression Statistics	
Multiple R	0.781827254
R Square	0.611253855
Adjusted R Square	0.602982661
Standard Error	1924.591811
Observations	49

Dependent Variable:
Local Switch Terminations per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	273735196.2	273735196.2	73.90152054	3.32776E-11
Residual	47	174090521.1	3704053.641		
Total	48	447825717.3			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	516.4844739	322.7451069	1.600285993	0.116236427
LeasedFacVol	10180.5852	1184.25726	8.596599359	3.32776E-11

Regression Statistics	
Multiple R	0.410793933
R Square	0.168751655
Adjusted R Square	0.15106552
Standard Error	62.66573856
Observations	49

Dependent Variable:
Local fiber route Miles per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	37469.28719	37469.28719	9.541465983	0.003368356
Residual	47	184568.7551	3926.994789		
Total	48	222038.0423			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	37.71819681	10.50875327	3.589217088	0.000788935
LeasedFacVol	119.1091534	38.56004966	3.088926348	0.003368356

Independent Variable(s): *LCbudMpop and UNEPrice*

Regression Statistics	
Multiple R	0.773966425
R Square	0.599024026
Adjusted R Square	0.581590288
Standard Error	0.377266179
Observations	49

Dependent Variable:
Local Switches per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	9.780914651	4.890457325	34.36004526	7.44256E-10
Residual	46	6.547169402	0.14232977		
Total	48	16.32808405			

Independent Vars.	*Coefficients*	*Standard Error*	*t Stat*	*P-value*
Intercept	0.284450366	0.233500251	1.218201545	0.229358855
LCbudMpop	0.105044819	0.01419687	7.399153267	2.30342E-09
UNEPrice	-0.007899419	0.009013578	-0.876391088	0.385371308

Regression Statistics	
Multiple R	0.784974656
R Square	0.616185211
Adjusted R Square	0.599497611
Standard Error	1933.020464
Observations	49

Dependent Variable:
Local Switch Terminations per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	275943584.1	137971792	36.92473624	2.72144E-10
Residual	46	171882133.2	3736568.114		
Total	48	447825717.3			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	1622.938807	1196.398693	1.356520043	0.181554445
LCbudMpop	552.0791729	72.74132222	7.589622461	1.19849E-09
UNEPrice	-50.00601269	46.18338766	-1.082770564	0.284553538

Regression Statistics	
Multiple R	0.501441202
R Square	0.25144328
Adjusted R Square	0.218897335
Standard Error	60.11005644
Observations	49

Dependent Variable:
Local fiber route Miles per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	55829.97353	27914.98676	7.725794547	0.001279878
Residual	46	166208.0687	3613.218886		
Total	48	222038.0423			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	86.49053812	37.20374116	2.324780665	0.024551457
LCbudMpop	6.517683142	2.261996221	2.881385513	0.005996789
UNEPrice	-2.126256772	1.436138981	-1.480536912	0.145547292

Independent Variable(s): *LeasedFacVol and UNEPrice*

Regression Statistics	
Multiple R	0.761742937
R Square	0.580252303
Adjusted R Square	0.562002403
Standard Error	0.385996049
Observations	49

Dependent Variable:
Local Switches per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	9.474408368	4.737204184	31.79482113	2.13173E-09
Residual	46	6.853675685	0.14899295		
Total	48	16.32808405			

Independent Vars.	*Coefficients*	*Standard Error*	*t Stat*	*P-value*
Intercept	0.243740764	0.242940153	1.003295507	0.320966996
LeasedFacVol	1.834674527	0.258836798	7.088151849	6.72152E-09
UNEPrice	-0.005031318	0.009399148	-0.53529512	0.595024379

Regression Statistics	
Multiple R	0.784329943
R Square	0.61517346
Adjusted R Square	0.598441871
Standard Error	1935.566547
Observations	49

Dependent Variable:
Local Switch Terminations per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	275490495.9	137745248	36.76718755	2.89131E-10
Residual	46	172335221.4	3746417.856		
Total	48	447825717.3			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	1320.199002	1218.216699	1.083714418	0.28413915
LeasedFacVol	9827.480456	1297.929988	7.571656829	1.27455E-09
UNEPrice	-32.26125478	47.13176683	-0.684490673	0.497099756

Regression Statistics	
Multiple R	0.454203752
R Square	0.206301048
Adjusted R Square	0.171792398
Standard Error	61.89601403
Observations	49

Dependent Variable:
Local fiber route Miles per million population

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	45806.68084	22903.34042	5.978241618	0.004921342
Residual	46	176231.3614	3831.116553		
Total	48	222038.0423			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	93.10946778	38.95642754	2.390092564	0.020996597
LeasedFacVol	94.77349712	41.50551831	2.2833951	0.027074012
UNEPrice	-2.223416205	1.507191011	-1.475205324	0.146969644