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Witness: Joseph Gillan
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Case No.: TO-2006-0360

DIRECT TESTIMONY OF

JOSEPH GILLAN

ON BEHALF OF THE CLEC COALITION

TO-2006-0360

March 30, 2007

Case No. T0-2006-0360
Direct Testimony: Joseph Gillan
On Behalf of NuVox Communications
of Missouri, Inc.
March 30, 2007

STATE OF MONTANA)
) SS.
COUNTY OF MISSOULA)

BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

In the Matter of the Application of NuVox Communications of Missouri, Inc. for an Investigation into the Wire Centers that AT&T Missouri Asserts are Non-Impaired Under the TRRO.	)))))	Case No. TO-2006-0360

AFFIDAVIT OF JOSEPH GILLAN

COMES NOW Joseph Gillan, of lawful age, sound of mind and being first duly sworn, deposes and states:

1. My name is Joseph Gillan. I am the consultant for CLEC Coalition.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony in the above-referenced case.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Joseph Gillan

SUBSCRIBED AND SWORN to before me, a Notary Public, this 27 day of MARCH, 2007.

Notary Public

My Commission Expires:
(SEAL)

JAMES P. DENTON NOTARIAL SEAL STATE OF MONTANA

JAMES P. DENTON
NOTARY PUBLIC-MONTANA
Residing at Missoula, Montana
My Comm. Expires June 27, 2009

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of NuVox Communications of Missouri, Inc., for an Investigation into the Wire Centers that AT&T Missouri Asserts are Non-Impaired Under the TRRO	**)** **)** **)** **)** **)**	**Case No. TO-2006-0360**

DIRECT TESTIMONY OF JOSEPH GILLAN
ON BEHALF OF THE CLEC COALITION[1]

March 30, 2007

I. INTRODUCTION

Q. Please state your name, business address and occupation.

A. My name is Joseph Gillan. My business address is P.O. Box 7498, Daytona Beach, Florida 32116. I am an economist with a consulting practice specializing in telecommunications.

[1] Members of the CLEC Coalition are McLeodUSA Telecommunications Services, Inc., NuVox Communications of Missouri, Inc., and XO Communications Services, Inc.

Q. Please briefly outline your educational background and related experience.

A. I am a graduate of the University of Wyoming where I received B.A. and M.A. degrees in economics. From 1980 to 1985, I was on the staff of the Illinois Commerce Commission where I had responsibility for the policy analysis of issues created by the emergence of competition in regulated markets, in particular the telecommunications industry. While at the Commission, I served on the staff subcommittee for the NARUC Communications Committee and was appointed to the Research Advisory Council overseeing the National Regulatory Research Institute.

In 1985, I left the Commission to join U.S. Switch, a venture firm organized to develop interexchange access networks in partnership with independent local telephone companies. At the end of 1986, I resigned my position of Vice President-Marketing/Strategic Planning to begin a consulting practice.

Over the past twenty-five years, I have provided testimony before more than 35 state commissions, six state legislatures, the Commerce Committee of the United States Senate, and the Federal/State Joint Board on Separations Reform. I have also been called to provide expert testimony before federal and state civil courts by clients as diverse as the trustees of a small competitive carrier in the Southeast to Qwest Communications. In addition, I have filed expert analysis with the

Finance Ministry of the Cayman Islands and before the Canadian Radio-Telecommunications Commission.

Finally, I serve on the Advisory Council to New Mexico State University's Center for Regulation (since 1985) and I am an instructor in their "Principles of Regulation" program taught twice annually in Albuquerque. I also lecture at Michigan State University's Regulatory Studies Program and have been invited to lecture at the School of Laws at the University of London (England) on telecommunications policy and cost analysis in the United States. A complete listing of my testimony and experience is included in Exhibit JPG-1 (attached).

Q. On whose behalf are you testifying?

A. I am testifying on behalf of McLeodUSA Telecommunications Service, Inc. ("McLeodUSA"), NuVox Communications of Missouri, Inc. ("NuVox"), and XO Communications Services, Inc. ("XO") (collectively, the "CLEC Coalition"). NuVox filed the petition that initiated this proceeding. McLeodUSA and XO intervened and share the same interests as competitive local exchange carriers ("CLECs") operating in Missouri markets.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to address the appropriate classification of Missouri wire centers according to the Federal Communications Commission's ("FCC") *Triennial Review Remand Order* ("*TRRO*").[2] The *TRRO* defines AT&T Missouri's unbundling obligations for high capacity loops and transport according to different categories of wire centers determined by the number of business lines and fiber-based collocators in the wire center. In the testimony below, I outline the requirements of the FCC methodology, calculate preliminary counts of business lines and fiber-based collocators, and recommend a preliminary wire center list for the state.[3]

II. CALCULATING BUSINESS LINES

A. A Simple Solution

Q. Before you turn to a detailed discussion of the business line issue, do you have a preliminary comment and recommendation?

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[2] In the Matter of Unbundled Access to Network Elements, WC Docket No. 04-313, Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, CC Docket No. 1-338 (rel. Feb. 4, 2005) ("*TRRO*").

[3] As I explain in the testimony below, there are a number of areas where AT&T has refused to respond to discovery that are needed to propose a finalized list. For instance, AT&T will only provide business line data for 2003 and, even then, will not provide the data that it filed at the FCC for that same year. With the expectation that AT&T will be compelled to respond to pending discovery, I intend to finalize my recommendations in rebuttal testimony.

A. Yes. As the Commission will see in the testimony that follows, most of the debate involving the business line calculation concerns how to apply the FCC's textual instructions in the *TRRO* to calculate a numeric value. There is another approach, however, that could simplify this process (at least as regards this initial wire center list): That is, the Commission could use the *same* data that the FCC relied upon in the *TRRO* when it established the business line thresholds.

There is no question that AT&T Missouri has *already* provided the FCC with the number of business lines at each Missouri wire center (along with other RBOCs) during the *TRRO* proceeding, and that the FCC *relied* upon this data to set the thresholds for loop and transport unbundling.[4] Although AT&T has thus far refused to respond to discovery here in Missouri requesting that it provide the data that it provided the FCC,[5] it has explained in other state commission proceedings that the FCC fully expected the states to duplicate the same calculations that the FCC used in the *TRRO*:

> To make the matter even more clear, the FCC performed a "dry run" of the [business line] rule in the proceedings that led to the *TRO Remand Order*. It directed the incumbents to provide business line counts … [t]he incumbents complied, the FCC deemed the data sufficient to assess non-impairment, and it told the world that it expected the same calculations in practice.[6]

[4] The business line count that the FCC relied upon (and which was the basis for the FCC's non-impairment thresholds) was data provided by AT&T Missouri and other RBOCs in December of 2004 (reflecting line counts as of December 2003). See *TRRO* ¶ 114, n. 322.

[5] *See* AT&T Missouri objection to NuVox-XO Request No. 1, RFI No. 1-7.

[6] Reply Brief of SBC Indiana, Cause No. 42857 (filed October 28, 2005) at 9 (emphasis added).

Moreover, as AT&T pointed out in a state commission proceeding similar to this one, performing different calculations than the FCC relied upon could result in impairment findings that contradicted the findings of the FCC:

> That is why the FCC used that definition in its rule – so that parties would maintain apples-to-apples consistency with its analysis. Otherwise, impairment might be found in practice in wire centers where the FCC had deemed CLECs are *not* impaired in its remand proceedings.[7]

Q. Did the FCC also use this business line count to establish the impairment thresholds?

A. Yes. The FCC specifically adopted the relevant thresholds based on the business line count provided by AT&T Missouri and other RBOCs. As AT&T has explained, had the FCC expected the states would see different business line counts than the RBOCs provided the FCC in the *TRRO*, the FCC would have logically established different thresholds:

> [T]he FCC used the exact same basket [of UNE loops] in its "dry run," to set the threshold numbers of business lines that would establish non-impairment. Plainly, the real-world tests should remain consistent with the approach the FCC used to set its passing grades. Had the FCC applied the different formula that the CLECs propose now, it would undoubtedly have chosen a lower number of business lines for its thresholds.[8]

[7] SBC Indiana's Initial Brief, Cause No. 42857, October 7, 2005 at Issue 3: p. 3 (emphasis added).

[8] *Id*. at 10.

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> The FCC's impairment determinations were made on a national basis based on the data that all of the ILECs provided. The definition of business line that the FCC established was based on this same information…. Were the definition of business line to change as some CLECs have previously proposed, then the FCC's impairment analysis would need to reflect this change and, logically, the number of business lines required to meet the thresholds would need to be reduced.[9]

AT&T only addresses this concern based on its assumption that CLECs would propose interpreting the business line definition to decrease the business line count – a characterization that does *not* apply to my testimony, which is firmly grounded in the FCC's rule as written. Although AT&T did not point it out, the same concern applies equally to an ILEC interpreting the FCC's definition to substantially *increase* the number of business lines from the level reviewed by the FCC and embodied in its rule. Because AT&T is proposing to apply a different interpretation than the FCC adopted in order to increase the business line count, AT&T has resisted sharing with this Commission the number of business lines in Missouri that it provided to the FCC. Moreover, had the FCC adopted a definition that substantially increased the business line count, it is equally logical to conclude that the FCC would have had to increase the thresholds so that the impairment determinations would have been consistent with the data under review.

[9] Direct Testimony of AT&T Arkansas witness Carol Chapman, Arkansas Public Service Commission Docket No. 05-140-C, filed February 10, 2006, at 19.

Q. Are you recommending that the Commission use a different business line definition or thresholds than the FCC adopted?

A. No, not at all. As I explain below, however, I believe the Commission must read the *full* definition to apply it correctly. What I am suggesting is that the actual business line count provided by AT&T-Missouri (then SBC) to the FCC during the TRRO is useful for two reasons.

First, the business line count data that AT&T-Missouri provided the FCC could be used directly to reach impairment/non-impairment findings for this, the initial wire center list. There is no question that the FCC relied upon business line data provided by the RBOCs when it established the impairment/non-impairment thresholds. It is my understanding that AT&T is recommending that this Commission rely on data for the same time period (lines as of December 2003) as the data that the FCC relied upon in the *TRRO*. Obviously, in order for this Commission to obtain the same results as the FCC (when looking at data for the same year), then the calculation here has to be the same as the calculation of business lines that the FCC reviewed. The simplest way to assure consistent results is to use the same business line counts that the FCC relied upon.

Alternatively, the business line data provided to the FCC can be used indirectly to judge the reasonableness of alternative interpretations of the business line definition. To the extent that the Commission does not rely on the actual data

relied upon by the FCC – for instance, by using data for a different time period – then it can judge the reasonableness of competing interpretations of the FCC's rule by comparing the results to the data used by the FCC. The closer the result is to the calculation relied upon by the FCC, the more closely the Commission's impairment findings will track those of the FCC.

Q. Has AT&T-Missouri provided the business line count for Missouri that the FCC relied upon when establishing the thresholds?

A. No. To date, AT&T has refused to permit the data to be presented to the Commission in this proceeding, even though, in AT&T's own words, "the FCC deemed the data sufficient to assess non-impairment, and it told the world that it [the FCC] expected the same calculations in practice."[10] NuVox and XO have filed a motion to compel production of this information and I would hope that the data will be available so that final recommendations can be made in rebuttal testimony.

B. The Business Line Definition

Q. If the Commission does not adopt your "simple solution," please explain how the Commission should recalculate the number of business lines in Missouri.

[10] Reply Brief of SBC Indiana, Cause No. 42857 (filed October 28, 2005) at 9.

A. The FCC's Business Line definition (47 C.F.R. § 51.5) consists of four sentences, each of which must be complied with in order for a line to be counted as a business line:

> Business line. A business line is an incumbent LEC-owned switched access line used to serve a business customer, whether by the incumbent LEC itself or by a competitive LEC that leases the line from the incumbent LEC. The number of business lines in a wire center shall equal the sum of all incumbent LEC business switched access lines, plus the sum of all UNE loops connected to that wire center, including UNE loops provisioned in combination with other unbundled elements. Among these requirements, business line tallies (1) shall include only those access lines connecting end-user customers with incumbent LEC end-offices for switched services, (2) shall not include non-switched special access lines, (3) shall account for ISDN and other digital access lines by counting each 64 kbps-equivalent as one line. For example, a DS1 line corresponds to 24 64 kbps-equivalents, and therefore to 24 "business lines."[11]

The most important step in applying the above definition is recognizing that all four sentences must be read together and applied in a manner that is internally consistent.

Q. What do you mean by the statement that all four sentences must be read together and in a manner that is internally consistent?

A. Based on positions that AT&T has adopted in other proceedings, the Commission will see that its approach is flawed because it adopts a reading of the FCC definition that is internally inconsistent, with each sentence of the definition

[11] 47 CFR § 51.5.

conflicting with another. A more rational reading of the definition is one where each sentence builds upon another so that, in order to be counted, a business line must satisfy *each* of the requirements in the definition (and not just satisfy a single sentence while conflicting with others).

Q. Please explain how the FCC's definition logically builds a set of requirements that are internally consistent.

A. To begin, the first sentence in the definition establishes two conditions: (1) that only business lines are to be counted, and (2) whether a line is counted should not be affected by whether it is served by a CLEC leasing the loop from AT&T or by AT&T itself:

> A business line is an incumbent LEC-owned switched access line used to serve a business customer, whether by the incumbent LEC itself or by a competitive LEC that leases the line from the incumbent LEC.

The definition goes on to indicate the types of loops that should be counted (but *only* if the other elements of the definition are satisfied):

> The number of business lines in a wire center shall equal the sum of all incumbent LEC business switched access lines, plus the sum of all UNE loops connected to that wire center, including UNE loops provisioned in combination with other unbundled elements. Among these requirements, business line tallies:
>
> (1) shall include only those access lines connecting end-user customers with incumbent LEC end-offices for switched services,

(2) shall not include non-switched special access lines,

(3) shall account for ISDN and other digital access lines by counting each 64 kbps-equivalent as one line. For example, a DS1 line corresponds to 24 64 kbps-equivalents, and therefore to 24 "business lines."

The conjunctive phrase "among these requirements" clearly indicates that these sentences are to be read together in harmony, not in isolation as separate (and conflicting) instructions.

Q. Does AT&T calculate business lines in a manner that respects the internal consistency of the FCC's definition?

A. No. AT&T Missouri's methodology violates one or more of the requisite criteria in how it counts "business lines" by including: (a) residential lines served by CLECs using UNE loops (to the extent such loops exist); and (b) capacity on high-speed digital access lines leased to CLECs that are empty or used for data services. The rule unambiguously defines (not surprisingly) that a *business* lines is a "switched access line used to serve a business customer," and that the count "shall include only those access lines connecting end-user customers with incumbent LEC end-offices for switched services," not spare and/or carrying non-

switched data traffic.[12] AT&T Missouri's interpretation inflates the number of "business lines" and directly conflicts with the FCC's definition.

Q. How should UNE loops be counted under the FCC's *TRRO* and rules?

A. UNE loops must be counted in a manner that complies with the *full* FCC definition. This means that, in order to be counted, a UNE loop must be (1) used to serve a business customer; (2) used to provide switched services; and, to the *extent consistent with these requirements*, (3) each 64 kbps channel should be evaluated as one line. In addition, whether a line would be counted or not should not depend upon whether the customer is served by AT&T Missouri or the CLEC.[13] As a result, unless a UNE-loop arrangement would be counted by AT&T Missouri as a business line in ARMIS 43-08 if the same arrangement had connected to AT&T Missouri's switch,[14] then the UNE loop arrangement should not be counted for the CLEC either.

[12] 47 CFR § 51.5. Emphasis added.

[13] This "parity" requirement is contained within the first sentence of the business line definition, which defines a business line as "an incumbent LEC-owned switched access line used to serve a business customer, *whether by the incumbent LEC itself or by a competitive LEC that leases the line from the incumbent LEC*." (Emphasis added.)

[14] ARMIS 43-08 is the source for the AT&T Missouri retail line count. The full reading of the business line definition as recommended by my testimony would ensure that CLEC lines are counted consistently with the manner in which AT&T's retail lines are counted in ARMIS 43-08.

Q. Has AT&T Missouri faithfully applied the limiting criteria in the FCC rule (*i.e.*, that the line must be used to serve a business customer, that only lines used to provide switched services should be counted, etc…)?

A. No. AT&T Missouri's application of the FCC definition is based on reading isolated components of the definition, while ignoring other requirements. This is most apparent by the way that AT&T Missouri interprets two sentences in the definition, to the exclusion of all other requirements.

First, AT&T Missouri places great emphasis on the second sentence of the definition which, when read in isolation, states:

> The number of business lines in a wire center shall equal the sum of all incumbent LEC business switched access lines, plus the sum of all UNE loops connected to that wire center, including UNE loops provisioned in combination with other unbundled elements.

AT&T Missouri claims that the sentence permits it to count all UNE-L, without regard to whether the lines satisfy *any* of the requirements to be considered a "business line." Second, AT&T Missouri exploits an exemplar in the definition (describing how a DS1 *could* be counted) as an unconditional directive that the maximum potential capacity of high-speed digital services *should* be counted, again without regard to whether any of the threshold requirements to be counted as a business line are being satisfied.

Importantly, however, there is no absolute instruction in the definition that requires that all UNE loops – much less every 64 kbps channel – be counted as a business line, whether or not they otherwise meet the requirements of the definition. To the contrary, the definition applies additional requirements to both UNE loop arrangements and AT&T Missouri's retail lines that must also be satisfied before "a line" becomes "a business line." This is true for individual analog lines, as well as each "64 kbps equivalent" line.

Q. Is your interpretation of the definition consistent with how ARMIS 43-08 counts AT&T Missouri's retail lines?

A. Yes. AT&T Missouri acknowledges that the FCC directed that its business switched access line counts use the ARMIS 43-08 definition, as indicated by the FCC in ¶105 of the *TRRO*.[15] The term "business switched access lines" is a defined term in ARMIS 43-08, which is the reporting system that the FCC directed be used to measure ILEC retail lines.[16] Importantly, the ARMIS instructions (attached as Exhibit JPG-2) require that AT&T Missouri report its

[15] *See TRRO,* ¶ 105, n.303, specifically referencing a document from the FCC website: http://www.fcc.gov/wcb/armis/documents/2004PDFs/4308c04.pdf (*see* page 21 for definition of Business Switched Access Lines). As I explain later in my testimony, however, I disagree with AT&T Missouri when it claims that it must rely upon 2003 ARMIS 43-08 information, particularly when the FCC specifically referenced its instructions for the 2004 report.

[16] *TRRO*, ¶ 105, n. 303.

lines in voice-equivalents,[17] but does not permit AT&T Missouri to count empty circuits or data circuits.[18] Because AT&T Missouri may not count empty or data circuits on a DS1 used to provide service to one of its customers (it may only count the activated circuit-paths),[19] it may not count idle and/or data capacity merely because the customer has shifted to a CLEC.

C. A Preliminary Missouri Business Line Count

Q. Have you calculated a Missouri business line count that would conform to the FCC's rules?

A. Yes, but *only* to the extent possible given the limited data that AT&T has made available. Specifically, AT&T refuses to provide any data other than the data that AT&T claims should be used to calculate the business line count. The only data

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[17] *See* http://www.fcc.gov/wcb/armis/documents/2004PDFs/4308c04.pdf (page 21) defining ARMIS 43-08 Business Switched Access Lines as "total voice-grade equivalent analog or digital switched access lines to business customers." (Emphasis added.) Attached as Exhibit JPG-2.

[18] As indicated on page 20 of the instructions (attached as Exhibit JPG-2), the instructions for ARMIS 43-08 – like the FCC's business line definition here – make clear that AT&T Missouri may count "only those lines connecting end-user customers with their end offices for switched services."

[19] In proceedings in the Southeast, BellSouth has freely admitted that ARMIS 43-08 only permits an ILEC to count activated 64 kbps channels. *See*, for instance, Direct Testimony of BellSouth witness Pamela Tipton before the Georgia Public Service Commission, Docket No. 19341-U, page 31:

> ARMIS 43-08 line counts only include provisioned or "activated 64 kbps channels that ride high capacity digital lines. For example, if a switched DS1 Carrier System had eighteen (18) 64 kbps channels provisioned as business lines for a customer, the ARMIS 43-08 would count only 18 business lines.

AT&T has provided is data as of December 2003, but notably NOT the data for this same year that AT&T provided to the FCC (as I discussed in the initial section of this testimony). AT&T refuses to provide data for any subsequent years,[20] including business line data for the same period that AT&T maintains the fiber-based collocator count should be conducted. Consequently, I have calculated a preliminary FCC-compliant business line count, but only for 2003. This analysis is useful to judge whether the approach I recommend is reasonable by comparing these results (for 2003) to the business line count relied upon by the FCC in the *TRRO* (which was calculated for 2003). As I explain below, however, if the Commission chooses to *recalculate* the business line count – that is, if it chooses to not simply rely on the same data as the FCC – then it must do so using more current data. The 2003 analysis presented here, however, would still be useful as a comparative measure of the reasonableness of my recommendations to those of AT&T Missouri.

Q. Why is the time period AT&T Missouri used (2003) inappropriate for the business line count?

A. AT&T Missouri is proposing a business line count that is fundamentally at odds with the count of fiber-based collocators and relies on information that is simply too old. To begin, when the FCC directed that ARMIS 43-08 data be used as the

[20] *See* AT&T objection to NUVOX-XO Request No. 1, RFIs Nos 1-4 and 1-5. The CLEC Coalition is attempting to obtain from AT&T the same back up information it supplied for its 2003 line count for the years 2004 and 2005.

source for Business Switched Access Lines, it specifically referenced the instructions for the 2004 ARMIS filing.[21] Had the FCC intended 2003 data to be used, it could have easily referenced the 2003 data then on file at the FCC (and part of the record in the *TRRO*).

Moreover, AT&T Missouri is proposing to base its fiber-based collocator count (which is the second prong of the wire center analysis) on data as of March 11, 2005.[22] The FCC's impairment standards employ both the business line count and the fiber-based collocator count – with the loop impairment standard requiring that both standards be satisfied at the same time – and it makes no sense to develop a wire center list that relies on data for business lines from 2003 and fiber-based collocators from 2005.

Q. Why is it a problem to rely on obsolete business line data?

A. By relying on obsolete information, AT&T Missouri overstates the number of its retail Business Switched Lines, as well as UNE arrangements, all of which have declined since 2003:[23]

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[21] *See TRRO*, ¶ 105, n. 303.

[22] *See* AT&T response to NuVox-XO Request No. 1, RFI No. 1-3.

[23] Although AT&T Missouri's retail business lines at the end of 2005 remained lower than their level in 2003, AT&T Missouri did report a 1.4% gain in the period 2004 to 2005, while UNE volumes declined by 36% in this same period.

Table 1: Using Obsolete Data Overstates Business Lines[24]

Measure[25]	Dec. 2003 to Dec. 2004	Dec. 2003 to Dec. 2005	Dec. 2003 to Jun. 2006
UNE-L	-6.6%	-21.0%	-26.1%
UNE-P	-2.2%	-41.3%	-44.4%
Business Switched Access Lines	-4.8%	-3.5%	

Q. Although limited to 2003 data, have you calculated UNE-L business lines to assure that *only* capacity used to provide switched services (as opposed to idle capacity or capacity used for data services) is included in the business line count?

A. As the Commission is well aware, high-speed digital loop capacity is typically used to provide a mix of voice and data services and is almost never entirely used to provide switched voice service. This fact has previously been testified to by AT&T (then called SBC), which argued that CLECs would routinely use such high capacity facilities to serve as few as 4 business lines, with the remaining "20 lines" devoted to non-switched data services.[26]

> I think the proof in the pudding is looking and seeing what CLECs do. And in my testimony and as I tried to say earlier, CLECs are offering integrated access services on as few as four-line minimums to customers at rates that are attractive and they're reporting big sales of those services. Xspedius offers integrated access where they'll put in the channel banks and they'll give you a T1 line, a fractional T1 line and four stations at an attractive rate. And that's their rack rate. That doesn't have anything to do with

[24] Sources: Missouri-specific UNE-P and UNE-L (AT&T Response to FCC Form 477 Local Competition Reports); Business Switched Access Lines (ARMIS 43-08).

[25] Data shown is based on statewide line counts.

[26] The maximum potential capacity of a high capacity DS1 circuit is "24 lines."

> regard to what special deals they'll make for you. AT&T offers it as low as five. They have one if you provide your own channel bank they'll offer it as low as you want. Sprint has six-line minimums on the rack rate.[27]

AT&T Missouri (then SBC) sponsored similar testimony here, pointing out that CLECs would typically combine voice service with data services on high speed facilities.[28] The Commission reviewed similar claims and determined that the economic cross-over to serve a multi-line customer was eleven lines. I recommend that the Commission use this finding as a proxy for the average utilization of a DS-1 for voice services, which supports a finding that a 11:1 conversion ratio) for high-speed capacity should be used to avoid counting capacity used for data and non-switched services.[29]

Q. Is a 50% fill rate (for switched voice service) consistent with other data and testimony you have reviewed?

A. Yes. BellSouth – the dominant provider in the Southeast and now an affiliate of AT&T Missouri – provided data documenting the average voice fill on the high-capacity loops it uses to serve its business customers. The recommendation to use

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[27] Hearing Before the Texas Public Utility Commission, Docket No. 28607, *Impairment Analysis of Local Circuit Switching for the Mass Market,* Cross-examination of SBC witness Loehman, Tr. 802-803.

[28] See Testimony of Gary Fleming, Missouri Public Service Commission Case No. TO-2004-0207, Phase I, December 18, 2003, at 23-24.

[29] *See* Order Establishing Geographic Markets And Enterprise Market Cutoff, Missouri Public Service Commission Case No. TO-2004-0207, February 24, 2004.

the Missouri cross-over finding as a proxy (11:1) is entirely consistent with the BellSouth data. In addition, in nearby Oklahoma, CLEC Logix Communications testified that the industry average would be approximately 10 lines,[30] further demonstrating that the Missouri cross-over finding is likely to *overstate* the percentage of digital capacity being used as a Business Line.

Q. What are the results of the corrected business line calculations you performed?

A. Confidential Exhibit JPG-3 compares the corrected calculation discussed above to the line counts claimed by AT&T Missouri. On average, correcting AT&T Missouri's business line count to remove estimated spare and data capacity from high speed UNE Loops reduces the business line count claimed by AT&T Missouri by approximately 10.5% (in 2003). As JPG-3 shows, the corrected line count moves one wire center (STLSMO21) below the 38,000 line threshold, thereby restoring the impairment finding for DS3 loops in that wire center.[31] As I explain above, however, this analysis is based on 2003 data, which is inappropriately old to be used in this way (unless the Commission directly relies

[30] See Report of the Arbitrator, Oklahoma Corporation Commission Cause No. PUD 200600034, April 25, 2006, at 16.

[31] The reduction in business lines below the 38,000 line threshold has no effect on the St. Louis wire center's Transport Tier because the non-impairment test for transport can be satisfied based on the number of fiber-based collocators or the business line threshold.

on the data AT&T provided the FCC).[32] Nevertheless, the analysis does provide a useful comparison to the FCC's analysis, once AT&T has provided that data to the Commission.

III. COUNTING THE NUMBER OF FIBER-BASED COLLOCATORS

A. The Key Determinants of a Fiber-Based Collocator

Q. Please summarize the applicable FCC rules/text relating to how AT&T Missouri should count "fiber-based"[33] collocators.

A. The FCC has defined a "fiber-based" collocator (FBC) as follows:

> Fiber-based collocator. A fiber-based collocator is any carrier, unaffiliated with the incumbent LEC, that maintains a collocation arrangement in an incumbent LEC wire center, with active electrical power supply, and operates a fiber-optic cable or comparable transmission facility that (1) terminates at a collocation arrangement within the wire center; (2) leaves the incumbent LEC wire center premises; and (3) is owned by a party other than the incumbent LEC or any affiliate of the incumbent LEC, except as set forth in this paragraph. Dark fiber obtained from an incumbent LEC on an indefeasible right of use basis shall be treated as non-incumbent LEC fiber-optic cable. Two or more affiliated fiber-based collocators in a single wire center shall collectively be counted as a single fiber-based collocator. For purposes of this

[32] I note that an additional wire center (SPFDMOTU) is very close to failing the criteria for non-impairment and may be removed from the wire center list once more appropriate data is provided by AT&T. As indicated, I expect to update this preliminary analysis in subsequent testimony after AT&T has provided additional data

[33] The term *fiber*-based collocator is technology neutral and, as such, could include collocators that are not, in fact, fiber-based, so long as the transmission medium is comparable to fiber.

> paragraph, the term affiliate is defined by 47 U.S.C. § 153(1) and any relevant interpretation in this Title.[34]

In addition to setting out this definition, the FCC provided further guidance in ¶ 102 of the *TRRO* (explained below) that underscores the importance of ensuring that each fiber-based collocator represents a distinct transport facility leaving the wire center, unaffiliated with AT&T Missouri.

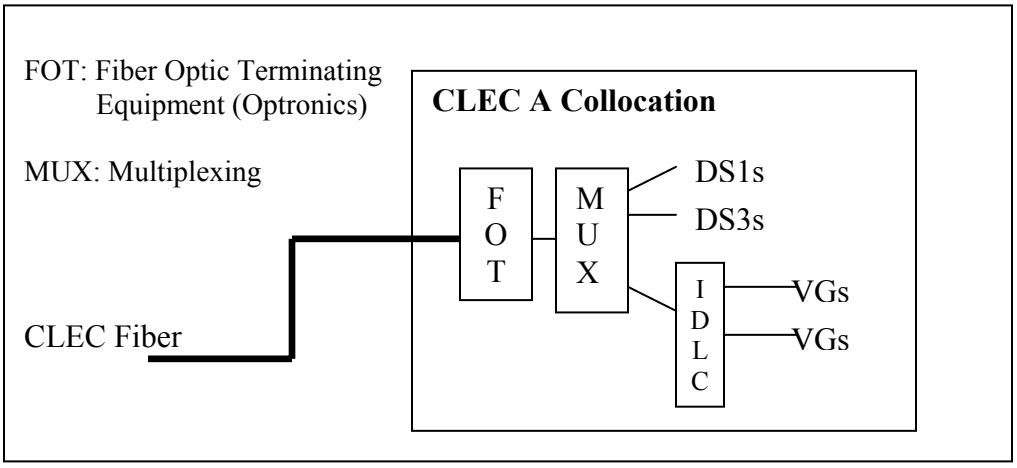
Q. What are the key elements of the FCC's fiber-based collocator definition?

A. The FCC's definition of a "fiber-based collocator" focuses on identifying and counting the single point of termination for each competitive transport facility serving the wire center. The one-to-one relationship between the number of fiber-based collocators and distinct transport facilities is a key feature of the FCC's definition of a FBC, which requires a FBC to operate a fiber-optic cable (or comparable transmission facility) that terminates at a collocation arrangement within the wire center and leaves the wire center. The practical consequence of these requirements is that only collocations that terminate distinct transport facilities qualify as fiber-based collocations.

Fiber optic networks "terminate" where fiber strands terminate into optronics equipment that determine system capacity.[35] As an engineering fact, any

[34] 47 C.F.R. § 51.5

individual fiber strand will terminate once and only once in a wire center, because only one set of optronics (also known as fiber optic terminating equipment) can be installed on a fiber. Moreover, the carrier that installs the optronics equipment is the carrier that "operates" the fiber-optic cable, because it is this carrier that determines the capacity of the system and its operating characteristics. As a practical matter, what this means is that there is only one basic configuration that can be counted as a fiber-based collocator — i.e., where the collocator terminates the non-ILEC fiber strands into optronics equipment in the collocation bay. Schematically, this configuration appears as follows:



Q. Is there a unique circumstance when a carrier leases dark-fiber from another carrier and installs its own optronics?

A. Yes. There are times when one carrier leases dark fiber from another and activates the fiber by adding its own optronics. The FCC addressed this unique

[35] System capacity refers to the total capacity of the network as defined by its optronics (i.e., OC-12, OC-48, etc…).

circumstance by indicating that when a carrier leases dark fiber (typically under an indefeasible right of use ("IRU") arrangement) – and then activates that fiber through its own optronics investment – then the carrier effectively operates a fiber facility that should be counted.[36] The FCC explained the role of dark-fiber IRU arrangements in the *TRRO*:

> We find that when a company has collocation facilities connected to fiber transmission facilities obtained on an indefeasible right of use (IRU) basis from another carrier, including the incumbent LEC, these facilities shall be counted for purposes of this analysis and shall be treated as non-incumbent LEC fiber facilities. *Triennial Review Order*, 18 FCC Rcd at 17231-32, para. 408 & nn.1263, 1265.[37]

To provide further emphasis, the FCC specifically linked the above discussion to its analysis in the *Triennial Review Order*[38] (¶ 408 and nn. 1263 and 1265, emphasis added) that states:

> The competitive transport providers identified to satisfy this trigger on a route must be unaffiliated with the incumbent LEC and each other.[n. 1263] This requires that separate facilities are counted and avoids counting as a true alternative a provider that uses the transport facilities of the incumbent LEC or another alternative provider to provide service on that route. We find, however, that when a company has obtained dark fiber from another carrier on a long-term IRU basis and activated that fiber with its own

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[36] This is true even when the dark fiber is obtained under an IRU from AT&T Missouri. My understanding, however, is that AT&T Missouri does not currently offer dark fiber under IRU agreements.

[37] *TRRO*, ¶ 102.

[38] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147 Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978 (2003) ("*TRO"*), *corrected by errata filing*, 18 FCC Rcd 19020 (2003) ("*TRO Errata"*).

> optronics, that facility should be counted as a separate, unaffiliated facility.[n. 1265]

Footnote 1263 in the *Triennial Review Order* (referenced above) goes on to explain:

> As discussed above, we find, for the limited purposes described herein, that when a company acquires dark fiber, but not lit fiber, from another carrier on a long-term IRU or comparable basis, that facility should be counted as a separate, unaffiliated facility.[39]

And footnote 1265 further states:

> … a competing carrier that has obtained dark fiber transport facilities from the incumbent LEC on an IRU basis should be considered to operate its own unaffiliated facilities. We believe that dark fiber IRU-type contracts protect against short-term gaming of this trigger. Moreover, we do not want to foreclose incumbent LECs from negotiating dark fiber IRU agreements with competitive LECs. Because we want to be certain of the independent ownership of the transport facilities, we find that consideration of transport facilities transferred on an IRU basis is limited to dark fiber and does not include "lit" fiber IRUs.[40]

This discussion makes clear that the only time a second carrier (sharing a fiber cable) should be considered a fiber-based collocator is when that second carrier has installed the optronics and obtained the underlying dark fiber under an IRU.

Q. Thus far, you have focused your discussion on carriers that are, in fact, fiber-based. What non-fiber optic cable facilities qualify as "comparable transmission facilities"?

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[39] *TRO*, n. 1263, emphasis added.

[40] *TRO*, n. 1265, emphasis added.

A. To begin, it is important to emphasize that the vast majority of competitively deployed networks are, in fact, fiber. As a result, it is most useful to discuss the FCC's rules in the context of *fiber*-based collocators, because that will be the most common occurrence. The FCC did indicate, however, that it intended for its FBC count to be technologically "agnostic" and directed that other networks that are "comparable" to fiber networks be considered.[41]

It is useful to understand that the transmission facility that must be "comparable" to fiber must be comparable as an inter-office transmission facility. After all, it is the fiber cable that leaves the wire center that the alternative transmission facility must be comparable to. In this regard, I am unaware of any interoffice fiber facility that operates at less than OC-3 (3 DS3) speeds, with OC-12 capacity being far more common. Consequently, at a minimum, in order for a transmission facility to be considered "comparable" to fiber-optic cable, it must *at least* be capable of carrying 3 DS3s of capacity, outside the central office, at typical interoffice distances (*i.e.,* several miles).

[41] *See TRRO*, n. 295.

B. A Preliminary Missouri Fiber-Based Collocation Count

Q. Have you validated the number of fiber-based collocation arrangements claimed by AT&T Missouri?

A. Yes. Staff required named fiber-based collocators to either confirm or deny whether they are fiber-based collocators.[42] As a result of this process, two carriers (Birch and NuVox) have denied that they are, in fact, fiber-based collocators in Missouri. As shown on Confidential Exhibit JPG-4, however, a corrected count of fiber-based collocators does not change the wire classifications in Missouri. Exhibit JPG-4 does show, however, that the correction in the business line count removes the non-impairment finding for DS3 loops in the STLSMO21 wire center (as discussed in the prior section).[43]

V. CONCLUSION

Q. Please summarize your testimony.

A. The *TRRO* sets forth a practical test to identify which wire centers should qualify for reduced unbundling obligations. The Commission must review AT&T

[42] I note that Staff's initiative in obtaining sworn validations greatly simplifies the debate in Missouri surrounding the fiber-based collocator issue.

[43] As I indicated earlier, the preliminary wire center list shown in Confidential Exhibit JPG-4 may have additional changes once AT&T has provided additional data.

Missouri claims so that carriers are confident that AT&T Missouri delisting assertions are supported by the facts and a clear reading of the FCC's rules.

Q. Does this conclude your testimony?

A. Yes.