

BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER
Chairman
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
MIKE GLEASON
Commissioner
KRISTIN K. MAYES
Commissioner

IN THE MATTER OF QWEST)
CORPORATION'S FILING OF RENEWED)
PRICE REGULATION PLAN)
_____)

DOCKET NO. T-01051B-03-0454

IN THE MATTER OF THE INVESTIGATION OF)
THE COST OF TELECOMMUNICATIONS)
ACCESS)
_____)

DOCKET NO. T-00000D-00-0672

DIRECT
TESTIMONY
OF
ARMANDO FIMBRES
PUBLIC UTILITIES ANALYST IV
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

NOVEMBER 18, 2004

TABLE OF CONTENTS

	<u>Page</u>
<i>EXECUTIVE SUMMARY</i>	<i>i</i>
INTRODUCTION	1
BACKGROUND	2
GENERAL COMPETITIVE SITUATION	4
CLEC COMPETITION	7
WIRELESS COMPETITION	24
VOIP COMPETITION	33
CONSIDERATIONS RELATING TO QWEST'S PROPOSAL FOR COMPETITIVE ZONES	41
EXHIBITS	1

EXECUTIVE SUMMARY
QWEST CORPORATION
Docket Nos. T-01051B-03-0454 & T-00000D-00-0672

My testimony addresses the competitive situation for which Qwest submitted direct testimony in its May 20, 2004 Renewed Price Regulation filing.

Some of Qwest's ILEC service areas have several forms of competition (resale, UNE-L, UNE-P & facilities bypass) but the competitive gains in the nearly 9 year window since the 96 Telecom Act was passed highlight slow progress with little to support that acceleration is imminent.

The competitive evidence with which the Commission must make decisions concerning competitive zones is not conclusive in its current form. Resale and UNE competitive options may actually be in decline. Wireline facilities bypass is an option that has been chosen by relatively few competitors. The strongest indicator of change may be in the continuing advancement of Wireless and the potential for Voice over Internet Protocol ("VoIP") services, however, the available Wireless and VoIP evidence does not support a conclusion that these services have had significant displacement of local exchange services at this time.

VoIP services have received enthusiastic support from many advocates, including the FCC, however, they appear to be at an early-adopter stage that makes their impact not relevant or even measurable for this proceeding. Surveys consistently report that Wireless *will* displace wireline local exchange service in meaningful levels. The strongest argument, however, for the consideration of Wireless competition as a displacement for local exchange service is simply - is it possible that over 2.8 million phones could have been added to the Arizona telecommunications market without having a major impact on local exchange services? While the argument in its simple form is compelling, the available information continues to show that wireless has not yet had a major impact on the displacement of main lines, the core of local exchange services. Wireless may have had its greatest impact on the displacement of additional lines and wireline local exchange minutes of use ("MOUs") but the measurable displacement of local exchange main lines by wireless remains low.

My analysis also indicates that competitive zone decisions based on historical, ILEC wire center boundaries is not consistent with the underlying point put forward by Qwest in its application – the telecommunications landscape is changing rapidly. It may be true that if competition can be easily defined and characterized within ILEC wire center boundaries, then the competitive situation is by definition neither broad nor diverse. The confirmation of competition within ILEC wire centers boundaries may actually be a confirmation of the least impactful forms of competition rather than the most impactful. Much greater confidence and reliability could be added by moving from traditional ILEC geographic boundaries to a relatively simple measure used not only in telecommunications but in all industries – zip codes.

I recommend:

- (1) Continuing analysis based on service address zip codes
- (2) Annual reporting of local exchange information based on service address zip codes
- (3) Continuing analysis based on listings information
- (4) Continuing tracking and analysis based on MOU information

1 **INTRODUCTION**

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

3 A. My name is Armando Fimbres. I am a Public Utilities Analyst employed by the Arizona
4 Corporation Commission (“ACC” or “Commission”) in the Utilities Division (“Staff”).
5 My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst IV.**

8 A. In my capacity as a Public Utilities Analyst, I provide information and analysis to the Staff
9 on telecommunications tariff filings, emerging industry issues such as VoIP, and matters
10 pertaining to major applications such as that filed by Qwest Corporation for Renewed
11 Price Regulation on May 20, 2004.

12
13 **Q. Please describe your educational background and professional experience.**

14 A. I received a Bachelor of Science degree from the University of Arizona in 1972 and have
15 taken business and management courses at Seattle University, Northwestern University
16 and the University of Southern California. I was employed for nearly twenty-nine years in
17 Bell System or Bell System-derived companies, such as Western Electric, Pacific
18 Northwest Bell, U S WEST and Qwest. The last twenty years of my Bell System
19 telecommunications experience were in operations planning, corporate planning, or
20 strategic planning roles with a special emphasis from 1994 to 2000 on competitive and
21 strategic analysis for the Consumer Services Marketing division of U S WEST and
22 similarly from 2000 to 2001 for Qwest. I have been with the Arizona Corporation
23 Commission Utilities Division since April 2004.

24
25
26

1 **Q. What is the scope of your testimony in this case?**

2 A. I will address the competitive situation for which Qwest submitted direct testimony in its
3 May 20, 2004 Renewed Price Regulation filing. My testimony will be directed to the
4 competitive situation on which Qwest is basing its application for Competitive Zones, and
5 other changes, within its Renewed Price Regulation application and will reflect analysis of
6 information requested from Qwest, Competitive Local Exchange Carriers (“CLECs”),
7 Wireless services providers and Voice over Internet Protocol (“VoIP”) providers.
8

9 **BACKGROUND**

10 **Q. What is the purpose of your testimony?**

11 A. My testimony addresses several aspects of analysis necessary to make a determination
12 regarding the competitive situation presented by Qwest Corporation in its May 20, 2004
13 application for Renewed Price Regulation. The purpose of my testimony is to add
14 appropriate context to the competitive situation and thereby facilitate the communication
15 of Staff’s position regarding the regulatory changes Qwest seeks in its application.
16 Specifically, my testimony will address the following topics: General Competitive
17 Situation, CLEC Competition, Wireless Competition, VoIP Competition and information
18 that has bearing on the classification of Competitive Zones.
19

20 **Q. Explain the primary information sources¹ used in your analysis?**

21 A. I requested and used information from a wide set of industry participants - Qwest, CLECs,
22 Incumbent Local Exchange Carriers (“ILECs”), Wireless service providers and VoIP
23 providers. I also analyzed information that was provided by Qwest in response to
24 Residential Utility Consumer Office (“RUCO”) data requests. Two information elements
25 that I requested from Qwest are the basis for many of my observations above the wire

¹ Highly Confidential information in this document is denoted by light background shading with black letters.
Confidential information in this document is denoted by a dark background with white lettering.

1 center level – Listings Information and Local Exchange Routing Guide (“LERG”)
2 information. The Listings information is useful for analysis because it contains records
3 for all Residence and Business main accounts without regard to listing options, such as
4 privacy or premium listings, thereby allowing analysis based on essentially 100 percent of
5 Residence and Business local exchange main accounts in Arizona. The Listings
6 Information is contributed by all wireline providers and, in some cases, wireless providers
7 of local exchange services for end-user customers and is refreshed often to serve end-user
8 needs and therefore is highly accurate. The Listings Information is particularly useful in
9 understanding the breadth of competition in contrast to access lines or revenues that are
10 subject to decisions made at the main account, or main listing, as contained in the Listings
11 Information. Said another way, ownership of the main account is critical for the
12 competitive gain of additional lines and revenues beyond basic service. Competitive gains
13 in additional lines and revenues are really downstream from competitive gains in main
14 accounts or main listings and in that sense are lagging indicators of the downstream
15 competitive end-state while main accounts are leading indicators.

16
17 The LERG information is a database that contains telecommunications information
18 essential for interconnection and is managed by Telcordia. The LERG is also updated
19 regularly and is highly accurate because of its interconnection importance. From the
20 LERG information it is possible to determine WHO has switches, WHAT type of switches
21 are installed, WHERE switches are located, WHEN switches are scheduled to become
22 active, WHICH NPA-NXXs are assigned to specific switches and many related factors,
23 such as number pooling. Even more insights can be gained by merging the Listings and
24 LERG information. By doing so, for example, it is possible to distinguish between the
25 listings owner (the company responsible for end-user service) and the switch owner (the
26 company providing the end office to which the number was originally assigned). I will

1 make reference to the Listings and LERG information in many areas throughout my
2 testimony.

3
4 **GENERAL COMPETITIVE SITUATION**

5 **Q. What is the general competitive situation pertaining to Qwest's application?**

6 A. The length, breadth and future of the competition claimed by Qwest requires additional
7 context to properly evaluate the proposal for competitive zones contained in Qwest's
8 application. For example, there is general acceptance that Wireless competition for local
9 exchange services may be accelerating as Wireless becomes a more suitable substitute for
10 local exchange service. Also, the rules and technology required to make VoIP service a
11 suitable alternative for local exchange service are being resolved. While there is evidence
12 to support some of the competitive assertions in Qwest's direct testimony, the evidence
13 must be given careful scrutiny in light of recent developments in the industry.

14
15 Although wireless services are used by some customers as substitutes for local exchange
16 services, whether customer acceptance is broad enough geographically and has enough
17 market diversity to rationally place wireless services on a competitive par with local
18 exchange services remains in doubt. A similar situation exists with VoIP services. While
19 VoIP technology appears to be a suitable alternative for local exchange services and many
20 forecasters, including the FCC, believe customer acceptance will be high, this alternative
21 is not currently developed and accepted on a widespread basis such that it is now an
22 alternative to traditional wireline service.

23
24 The situation pertaining to CLECs is subject to some uncertainty as well. My analysis
25 shows that CLECs remain the principal, demonstrable competitors for the local exchange
26 services offered by Qwest. In my testimony, I will place the level of competition faced by

1 Qwest in the context required for the Commission to more thoroughly assess Qwest's
2 competitive zone proposal.

3
4 **Q. What is CLEC competition?**

5 A. CLECs provide alternatives to ILEC services by (1) reselling Qwest's services, (2) using
6 unbundled network elements ("UNEs") supplied by Qwest, (3) deploying CLEC-owned
7 facilities-based² wireline systems or (4) by mixing the options. Qwest's testimony
8 specifically addresses the services of ten CLECs – (1) Cox, (2) AT&T, (3) Eschelon, (4)
9 McLeodUSA, (5) MCI, (6) SBC, (7) Sprint, (8) XO, (9) Xspedius, (10) Z Tel – and points
10 to 64 CLECs listed on the Arizona Corporation Commission's (ACC) website³. My
11 analysis of the Listings information confirms the presence of these 10 competitors in some
12 markets served by Qwest. My testimony, however, will clarify that while many CLECs
13 are listed with the ACC, the number of substantial or active competitors is much smaller
14 than the 64 referenced by Qwest.

15
16 **Q. What is Wireless competition?**

17 A. Wireless providers use communications systems with technology dependent on spectrum
18 assignments from the FCC and were originally focused on serving the mobility needs of
19 end-users. The systems of wireless providers operate differently than wireline providers
20 and the instruments used by customers are visually and functionally different than those
21 used by customers with wireline service. But, aside from mobility, the features, and
22 service functionality delivered reasonably equate to those of local exchange services and
23 can be used by customers as substitutes for wireline local exchange services. The three
24 main deficiencies of wireless service from a consumer perspective are (1) the lack of E-
25 911 comparable to local exchange service, (2) an undedicated loop that makes home

² Facilities-based in this testimony does not include UNE-P which is functionally similar to resale.

³ As of November 5, 2004, 69 CLECs were listed at http://www.cc.state.az.us/utility/utility_list/CLEC_list.pdf

1 security service less feasible and (3) quality of service problems in some areas. While
2 wireless networks and wireline networks are designed to interconnect, the end-user
3 instruments are not transportable between networks. Qwest's testimony specifically
4 references seven wireless providers - ALLTEL, AT&T Wireless, Verizon Wireless,
5 Cricket Communications, Nextel Communications, Sprint and T-Mobile. My testimony
6 will address the general competitive situation in which these providers participate.
7

8 **Q. What is VoIP competition?**

9 A. Voice over Internet Protocol, or VoIP as it is commonly known, is a broadband-based
10 technology that has been gaining support for several years and may be on the verge of
11 gathering measurable momentum. In its simplest form, VoIP looks to end-users like
12 wireline local exchange service since the end-user instruments can be the same. With its
13 unique technology, however, VoIP is able to utilize any broadband network based on
14 wireline or wireless technology. VoIP has its greatest impact on the Public Switched
15 Telephone Network ("PSTN") when Digital Subscriber Loop ("DSL") technology is used
16 by ILECs and CLECs to originate and terminate traffic. In contrast, however, it is
17 possible for a broadband network, such as a cable video network with cable modems, to
18 parallel the PSTN using VoIP or interconnect with the PSTN in the same manner as
19 wireless networks parallel or interconnect with the PSTN. Immediate cost benefits with
20 VoIP, however, exist only for those end-users who *already have broadband* and add VoIP
21 service incrementally. Without viewing VoIP service as incremental to broadband
22 service, wireline local exchange service is clearly less costly. Qwest's testimony
23 specifically references four VoIP providers – AT&T, Five Star Telecom, Vonage and
24 Packet8.
25
26

1 **CLEC COMPETITION**

2 **Q. What is the state of CLEC competition in Arizona?**

3 A. My analysis indicates that 42⁴ CLECs have one or more residence or business main
4 listings. (see Exhibit AFF-1) CLECs hold 18.7 percent of Business Main Listings and
5 21.9 percent of Residence Main Listings statewide. The range of participation, however,
6 appears to be quite broad. For example, of the 42 CLECs mentioned above, the top 10
7 CLECs hold business main listings that range from [redacted] to [redacted] or 92.4
8 percent of all CLEC business main listings. The other 32 CLECs hold only 7.6 percent of
9 all CLEC business main listings.

10
11 Exhibit AFF-2
12 Listing Information
13 - June 18, 2004 -
14

	Business	Residence
Total State Main listings	[redacted]	[redacted]
# of CLECS	[redacted]	[redacted]
CLEC Listings	[redacted]	[redacted]
% CLEC Listings of Total State	[redacted]	[redacted]
Listings of Top 10 CLECs	[redacted]	[redacted]
% Top 10 CLEC Listings of Total CLECs	[redacted]	[redacted]

15
16 The top 10 CLECs hold residence main listings that range from [redacted] to [redacted]
17 or 99.4 percent of all CLEC residence main listings. The other 32 CLECs hold only 0.6
18 percent of all CLEC residence main listings. Only 5 CLECs appear in both top 10 lists –
19 AT&T, Arizona DialTone, Cox, MCI, and McLeodUSA. Two of the ten CLECs
20 referenced in Qwest’s testimony as major competitors – SBC & Xspedius – do not appear
21 in either top ten list. SBC’s totals suggest it is not a major competitor in Arizona.
22 Xspedius’s presence is apparent but below the top ten list for business main listings.

⁴ Based on listings information from Qwest dated 06/18/04 in response to STF 3.20

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Q. What does your analysis suggest about facilities-based CLEC competition?

A. My LERG⁵ analysis discloses that 21 CLECs have 45 digital switches (“DSs”), those typically used by wireline providers for end-offices, with 279 assigned NPA-NXXs statewide. While switches can have considerable range in capacity, the 279 NPA-NXXs point to a maximum capacity of 2,790,000 numbers and corresponding switched access lines. The maximum capacity is reduced somewhat by number assignments made at the Thousands Group level to non-CLECs. Thousands Group level assignments are commonly known as number pooling. My analysis shows that of 1,824 assigned NPA-NXXs in Arizona, only 84 have thousand group assignments involving more than one provider. However, 87 NPA-NXXs assigned to CLEC DSs cannot be found in the Listings Information and, therefore, may be used for something other than end-user purposes or unused altogether.

Exhibit AFF-3

Arizona Digital Switch Situation	
# of CLEC DSs	[redacted]
# of CLECs with DSs	[redacted]
# of Qwest DSs	[redacted]

NPA-NXXs In Arizona	
State-Wide	[redacted]
Assigned to CLEC DSs	[redacted]

28 CLEC DSs can be seen serving at least one business main listing; 15 DSs have at least 100 business main listings. 19 CLEC DSs can be seen serving at least one residence main

⁵ LERG data provided by Qwest 06/21/04 in response to STF 3.21

1 listing; 13 DSs have at least 100 residence main listings. 12 CLEC DSs have no listings at
2 all and perhaps are unused for end-office purposes.

3
4 By joining the LERG information with the Listings Information, I found that 91 percent of
5 CLEC business main listings and 76 percent of CLEC residence main listings are assigned
6 to Qwest NPA-NXXs. This suggests that CLECs are competing for established
7 customers, through the use of number portability in a much higher proportion than for new
8 customers who would establish service with new numbers assigned directly to facility-
9 based CLECs. This is further substantiated by the per cent of Cox business and residence
10 main listings that are attributable to Qwest NPANXXs – [redacted] respectively.

11
12 **Q. What does your analysis suggest about Resale or UNE-P competition in Arizona?**

13 **A.** Staff offers the following observations about recent events and future trends:

14 1) - UNE-P competition has grown over the last three years, taking over as the preferred
15 means of providing local service by CLECs without their own local networks. Key
16 uncertainties, however, are now linked to recent USTA II rulings and expected FCC
17 unbundling rules. Continued use of this option by CLECs is highly uncertain and,
18 therefore, problematic as evidence of continuing CLEC competition. As Qwest CEO
19 Richard Notebaert stated in early September⁶, "...Qwest had seen a roughly 50 percent
20 drop last month in new residential lines leased to competitors over the previous month..."

21 While this statement was not specific to any state, its general significance must apply to
22 Arizona, second in market size only to Washington State within Qwest's ILEC region.

23 2) - Announcements by two key competitors identified by Qwest – AT&T and MCI – are
24 evidence that UNE-P competition should decline. In June, 2004, AT&T announced⁷ it

⁶ Reuters.com, September 9, 2004, "Baby Bells See Rivals Taking Fewer Phones"

⁷ Associated Press, 6/23/04, "AT&T Stops Taking Residential Customers in 7 States"; Washington Post, 6/24/04, "AT&T pulling back in state"; Reuters, 6/29/04, "AT&T plans more cuts in consumer business"

1 would discontinue marketing to residential customers in several states due to UNE-P
2 uncertainties and followed with a more comprehensive announcement in July⁸. MCI
3 followed with a similar announcement in early August⁹. The existing local exchange
4 residential base of both companies should decline through customer churn or migration
5 strategies.

6 3) – Resale, UNE-L and UNE-P are CLEC options that have broadened the competitive
7 base for residence and business. Without CLEC use of these options, competition will
8 depend on those with complete networks, such as Cox, or emerging technology
9 alternatives, such as VoIP. As discussed earlier, the necessary switching capacity appears
10 to be available but few CLECs have essential end-user loops and distribution networks.
11 At least [redacted] of all CLEC residence main listings are held by Cox Communications,
12 a facilities-based CLEC. This contrasts to [redacted] of all business main listings being
13 held by the top CLEC known to be using facilities bypass service, but in concert with
14 resale and UNE options. To equal the [redacted] residence figure for business requires
15 inclusion of the top 5 CLECs, all of whom appear to be mixing resale, UNE-L and UNE-P
16 options with facilities bypass. The recent FCC decision¹⁰ to not require RBOCs to
17 unbundle fiber optic broadband local networks will not help UNE based competition.
18

19 **Q. Where are CLECS providing competitive local exchange service in Arizona?**

20 A. Information provided by Qwest in response to RUCO's data requests¹¹ allows for
21 additional resale and UNE analysis. At least one form of competition exists in [redacted]
22 of the 136 wire centers listed on Qwest's SGAT¹² website information. (see Exhibit AFF-
23 4) UNE-L competition exists in [redacted] wire centers, [redacted] of which are in UNE

⁸ AT&T news release, 7/22/04

⁹ The Washington Times, August 6, 2004, "MCI set to downsize residential service"

¹⁰ FCC news release, October 14, 2004, "FCC Removes More Roadblocks To Broadband Deployment In Residential Neighborhoods"

¹¹ RUCO DR#2

¹² <http://www.qwest.com/wholesale/clecs/sgatswireline.html>

1 Rate Zone 1, [redacted] in Zone 2 *but only* [redacted] in Zone 3. (see Exhibit AFF-5)
2 UNE-P competition exists in [redacted] wire centers, [redacted] of which are in Zone 1,
3 [redacted] in Zone 2 and [redacted] in Zone 3. Residential resale competition exists in
4 [redacted] wire centers, [redacted] of which are in Zone 1, [redacted] in Zone 2 and
5 [redacted] in Zone 3. Business resale competition exists in [redacted] wire centers,
6 [redacted] of which are in Zone 1, [redacted] in Zone 2 and [redacted] in Zone 3.
7 Facilities bypass competition is *estimated* by Qwest in [redacted] wire centers,
8 [redacted] of which are in Zone 1, [redacted] in Zone 2 and [redacted] in Zone 3.

9
10 Exhibit AFF-4

11

	Qwest Wire Centers
# StateWide	[redacted]
# with Competitive Presence	[redacted]
# with UNE-L	[redacted]
# with UNE-P	[redacted]
# with Res Resale	[redacted]
# with Bus Resale	[redacted]
# with Facilities Bypass	[redacted]

12
13 While some wire centers have all four forms of competition (resale, UNE-L, UNE-P &
14 facilities bypass), the competitive gains in the nearly 9 year window since the 96 Telecom
15 Act was passed highlight slow progress with little to support that acceleration is imminent.
16 Qwest is requesting competitive flexibility in the form of Competitive Zones in 37 of 39
17 UNE Zone 1 wire centers, 17 of 33 Zone 2 wire centers and 28 of 64 Zone 3 wire centers
18 so Staff has conducted additional analysis to determine the appropriateness of Qwest's
19 request.

20
21 Exhibit AFF-5

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

Type of Competition	UNE			Total
	Zone-1	Zone-2	Zone-3	
UNE-L	[redacted]	[redacted]	[redacted]	[redacted]
UNE-P	[redacted]	[redacted]	[redacted]	[redacted]
Residence Resale	[redacted]	[redacted]	[redacted]	[redacted]
Business Resale	[redacted]	[redacted]	[redacted]	[redacted]
Facilities Bypass	[redacted]	[redacted]	[redacted]	[redacted]

Staff's comprehensive discussion of Qwest's request for competitive zone classification is addressed in the testimony of Staff Witness Matthew Rowell.

Q. What services are CLECs providing in Arizona?

A. Qwest submitted tariff and service information for ten CLECs - Cox, AT&T, Eschelon, McLeodUSA, MCI, SBC, Sprint, XO, Xspedius, and Z Tel. While the tariffs illustrate opportunities for broad residence and business local exchange service competition, the available evidence indicates that most of the 10 CLECs identified by Qwest are focused on providing business services. Only Cox appears to have a major emphasis on residence service. Only Cox appears to be committed to wide-spread, residential, facilities-based competition, the only form of local exchange service provisioning that allows for full local exchange service differentiation. Those using Resale or UNE-P are largely limited to differentiating with marketing approaches and service bundles enhanced by wireless, broadband or long distance elements. The levels of business and residence customer listings may also be indicative of very focused or selective marketing. A concept that is also generally obvious across the industry regards packaging and bundling, as illustrated by Qwest's own application. In an industry where long distance revenues have dropped considerably in recent years and access line growth¹³ is, at best, flat, many companies are focusing on increased revenues per account through packages that provide more services.

¹³ FCC, May 6, 2004, Trends in Telephone Service, Table 7.4

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Q. Did you look at the CLECs specifically referenced by Qwest in its testimony?

A. Using Listings information joined with LERG information, I was able to do a comparative evaluation of the CLECs’ digital switch capability. (See Exhibit AFF-6) It is no surprise that Qwest has far more capacity than any of the CLECs but the amount of local switching capacity available to Cox, AT&T, Eschelon, McLeodUSA, MCI, SBC, Sprint, XO, and Xspedius is, nonetheless, impressive. I found no evidence, however, that Z Tel has any switching capacity. Based on the information to which I have access, I believe that Z Tel is not providing switched access, local exchange services with its own facilities. Among this set of CLECs, I found 15 digital switches in Phoenix and 3 in Tucson. Additionally, I found 67 NPA-NXXs assigned to the Phoenix area (480, 602, 623) and 9 to the Tucson area (520).

The relative end-user presence of Cox, AT&T, Eschelon, McLeodUSA, MCI, SBC, Sprint, XO, Xspedius and Z Tel can be further defined by indexing the listings information against those of Qwest to protect the privacy of highly confidential information. An index is a means of standardizing the relative proportions of information thereby facilitating comparative analysis.

Exhibit AFF-7

	Phoenix Area Main Listings			Tucson Area Main Listings		
	Bus	Res		Bus	Res	
Qwest	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Cox	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

AT&T	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MCI	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Eschelon	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McLeodUSA	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SBC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sprint	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
XO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Xspedius	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Z Tel	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

Exhibit AFF-7 was developed by setting all Qwest listings totals to a value of 100, allowing relative CLEC values to be derived for the purpose of comparison. A 0 value does not necessarily mean 0 listings but rather that the number of listings is so small relative to those of Qwest that they equate to 0 in the context presented. This analysis is not meant to be conclusive. It simply provides one more means of evaluating the level of local exchange competition.

Only Cox, AT&T, and MCI have residence main listing indices above [redacted]. This is especially worrisome because AT&T and MCI have indicated they will no longer pursue residence CLEC customers. Only Cox’s Phoenix residence main listings index is greater than [redacted]. AT&T’s Phoenix business main listings index is next highest at [redacted] but all other indices are well below [redacted]. While it is startling to see so many zeros in the residence columns, consider that *all* positive figures except those for Cox could conceivably move toward zero if resale or UNE options diminish in use by major CLECs. In this simple comparative form, competitive levels are not impressive.

Q. What about other CLECs with switches?

A. Based on my analysis, there are another [redacted] DSs available to 11 CLECs not specifically noted by Qwest in the Phoenix area – Allegiance, Electric Lightwave, Global Crossing, Great West, Level 3, Mountain Tel, North Country, Pac-West, TCG (acquired

1 by AT&T), Time Warner and Winstar. While these switches are present in the LERG
2 data, if, and how, these switches are being used is very much in question. Some switches
3 have no listings currently and, therefore, may not be in use or may be used for something
4 other than end-user, switched-access, local exchange services. Winstar¹⁴, for example,
5 does not appear to be providing CLEC service in AZ at this time. A similar situation can
6 be seen in Tucson where [redacted] DSs are held by Brooks (acquired by MCI), Level 3,
7 TCG (acquired by AT&T) and Time Warner. While some allowance must be made for
8 the timing of the data, more switching capacity would appear to be available, but
9 underutilized, than suggested by the CLECs specifically identified by Qwest in its
10 application.

11
12 Exhibit AFF-8

13 Total Other Digital Switches in AZ

	Phoenix	Tucson
[redacted]	[redacted]	[redacted]

14
15 **Q. Are there other means to measure the level of CLEC competition in Arizona?**

¹⁴ Winstar has an application for service withdrawal before the Commission, T-03023A-04-0317

1 A. The level of CLEC competition can be measured in more than one manner, for example
2 through an analysis of lines, revenues or listings information as discussed earlier. Given
3 the visibility, accuracy, breadth and real-time operational nature of the Listings
4 Information, as discussed earlier, I chose to use the Listings Information to derive
5 Herfindahl-Hirschman Index (“HHI”) estimates that help gauge the level of competitive
6 presence through measuring market concentration. Market concentration is commonly
7 understood to be a function of the number of firms in a market and their respective market
8 shares.

9
10 The HHI¹⁵ measure is a commonly accepted measure of market concentration used most
11 notably by the U.S. Department of Justice in its evaluation of merger applications. It is
12 calculated by squaring the market share of each firm competing in a market, and then
13 summing the resulting numbers. The HHI can range from a minimum of nearly 0 to a
14 maximum of 10,000. The DOJ regards markets with an HHI below 1,000 to be
15 unconcentrated; markets with an HHI between 1,000 and 1,800 to be moderately
16 concentrated; and markets with an HHI above 1,800 to be highly concentrated.

17
18 Using the Listings Information, I estimated a statewide HHI of 5,336 for Residence and
19 5,168 for Business. These HHI figures take into consideration the end-user presence of all
20 ILECs and CLECs in Arizona. Limiting the estimates to just Qwest and all CLECs in
21 Arizona changes the HHI for Business to 6,333 and for Residence to 6,124. Further
22 limiting the estimates to Phoenix metro¹⁶ and Tucson metro¹⁷ changes the Phoenix HHI
23 business and residence figures to 5,916 and 5,529, respectively, and the Tucson HHI

¹⁵ <http://www.usdoj.gov/atr/public/guidelines/hmg.htm>

¹⁶ NPAs 480, 602, & 623

¹⁷ NPA 520

1 business and residence figures to 7,168 and 7,292, respectively. (see Exhibit AFF-9)
2 These figures suggest that the local exchange market is highly concentrated.

3
4 Some may believe that the HHI figures would be much lower if based on access lines. It
5 is worth pointing out, however, that for any HHI figure to drop below the DOJ upper
6 range of 1,800 used to define a moderately concentrated market, Qwest's market share,
7 however measured, would have to drop below 43 percent. Even in the more generous
8 state wide figure based on listings noted above, Qwest's business and residence main
9 listing shares are above 70 percent. Therefore, I believe it reasonable to use these HHI
10 estimates as a fair measure of the current local exchange service market concentration in
11 Arizona, Phoenix metro and Tucson metro.

12
13 **Q. Did you look at the level of competition in any other way?**

14 A. Yes. I made use of resale, UNE and bypass estimated information provided by Qwest in
15 response to RUCO's data requests, as well as the exhibit information provided by Qwest
16 in exhibit DLT-17¹⁸ of its application. By sorting and aligning the information into
17 Phoenix and Tucson wire center areas, I was able to determine HHI factors based on line
18 information to compare with those based on listings information as described earlier.
19 Using the line loss information, I calculated combined HHIs of 5,483 for Phoenix and
20 5,867 for Tucson. Separate HHIs for Business and Residence were not possible to
21 calculate since the facilities bypass information, UNE-P and UNE-L estimated by Qwest
22 is not easily separated into business and residence. I was able, however, to combine the
23 HHIs generated via the listings information for simple comparison with the HHIs
24 generated using Qwest's line information. Combined HHIs for Phoenix metro and Tucson
25 metro based on listings information are 5,532 and 7,273 respectively.

¹⁸ Revised per Qwest's response to STF 3.15

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

The most notable difference in the results of HHI based on lines, as provided by Qwest, and those based on listings concerns the Tucson area. My analysis reveals major differences between the number of CLECs believed by Qwest, as measured by its line information, to be involved in local exchange competition and those that can be seen active in the listings information. Two differences are worth noting in the following exhibit.

Exhibit AFF-10

	Phoenix Metro		Tucson Metro	
	Lines	Listings	Lines	Listings
HHI	[redacted]	[redacted]	[redacted]	[redacted]
CLECs	[redacted]	[redacted]	[redacted]	[redacted]
>=0.1% Share	[redacted]	[redacted]	[redacted]	[redacted]
Qwest Share	[redacted]	[redacted]	[redacted]	[redacted]
Mkt Total	[redacted]	[redacted]	[redacted]	[redacted]
Qwest #	[redacted]	[redacted]	[redacted]	[redacted]
CLEC #	[redacted]	[redacted]	[redacted]	[redacted]

(1) The line information provided by Qwest points to 40 business and residence CLECs in Tucson while the listings information points to only 33 CLECS. (2) The CLEC facilities-based line estimate provided by Qwest is driven by Local Interconnection Service (“LIS”) trunk information and a multiplier of 2.75¹⁹. While this methodology may be appropriate for some confirmed facilities-based providers, several of the key LIS trunk users in Tucson cannot be found in the listings information at all. Most significant are Level 3, KMC Telecom and Pac-West. KMC Telecom did not even complete its Access Services tariff with the ACC until August, 2004 nor does it have an identified end-office. Level 3

¹⁹ Qwest explains in response to RUCO 02-038S1 “...this is a conservative assumption...a single trunk can support up to approximately 10 facilities-based lines (source: UNE Fact Report, Section III, P. 14, May 26, 1999)”

1 does not provide any local exchange services directly to end-users²⁰. While CLECs, such
2 as these, may be providing interconnection services, they are not likely providing switched
3 access services directly to end-users. They should, therefore, not be included in an
4 analysis intended to reflect the state of switched access, local exchange competition. It
5 should also be noted that the estimate for Cox derived by Qwest's LIS trunk translation to
6 lines understates Cox's total lines. There are, therefore, issues with some estimates being
7 too low and some being too high with this methodology.

8
9 **Q. What are the general economic condition and business strategies of the CLEC**
10 **industry?**

11 A. Commenting on the economic condition of the CLECs in Arizona, requires more
12 resources and time than reasonably available, so I will limit my comments²¹ in this area to
13 the 10 CLECs referenced by Qwest in its testimony - Cox, AT&T, Eschelon,
14 McLeodUSA, MCI, SBC, Sprint, XO, Xspedius, Z Tel. Unless otherwise noted, my
15 comments regard publicly available information for the parent company rather than just
16 the specific CLEC entity.

17
18 Cox and SBC would have to be considered at the top in terms of financial health. Both are
19 large and diverse companies whose core revenues are derived from areas other than
20 Arizona local exchange service.

21
22 **1. Cox**

23 Cox Communications is an indirect 63.4 percent majority-owned subsidiary of Cox
24 Enterprises with total 2003 revenues exceeding \$5.7 billion, of which about 8 percent have
25 been attributed to telephony. Cox's core revenues arise from the 6.3 million video

²⁰ per Level 3 response to STF 2.1

²¹ Based on information obtained from Yahoo, Hoovers and company websites.

1 customers it serves nationally. Cox offers video and high-speed Internet access in almost
2 all of its markets, telephone service in a number of markets and advanced services in
3 select markets. Cox launched its Phoenix cable phone service in 1998²² and its Tucson
4 cable phone service in 2003²³. Cox appears committed to local exchange service and has
5 also announced plans for VoIP service. It remains to be seen how Cox's operations will
6 be impacted by Cox Enterprises' plans to acquire full ownership and take Cox
7 Communications private.

8 9 **2. SBC**

10 SBC has evolved from one of the seven RBOCs divested from AT&T in 1984 into a
11 holding company anchored by the merger of Southwestern Bell, Pacific Telesis, and
12 Ameritech. SBC has 55 million access lines in 13 states but relatively few in Arizona. Its
13 wireless operations were joined with those of BellSouth to form Cingular Wireless and
14 now rank #2 nationally behind Verizon Wireless with 24 million subscribers in 38 states.
15 SBC offers its services and products to businesses and consumers, as well as other
16 providers of telecommunications services. Although SBC's stock has dropped along with
17 the overall industry, there is little concern about SBC's financial health. SBC has the
18 experience, market strength and resources to execute many strategies for many service
19 offerings in many markets. It appears, however, that SBC is "maintaining a small number
20 of mass-market customers but is not seeking to acquire any new customers²⁴" in Arizona.

21 22 **3. AT&T, MCI and Sprint**

²² X-change mag.com, 08/1999, Phoenix Area Offers Enormous Growth Potential

²³ Cox news release, June 23, 2003, Cox Communications Launches Cox Digital Telephone Service Throughout Tucson and Green Valley, Arizona

²⁴ Direct testimony of Matthew Rowell, T-00000A-03-0369, page 21, line 19, response to Staff data request 3-1 and 3-2.

1 Much has been written about the financial and organization changes that AT&T, MCI and
2 Sprint have undergone in recent years. The three have been the backbone of US long
3 distance services since the mid-1980s but have struggled as long distance industry
4 revenues have declined with the advance of alternatives such as email and wireless. The
5 brand recognition and long distance market strength of AT&T, MCI and Sprint remain
6 formidable, however, their economic condition does not appear to match that of Cox or
7 SBC and their commitment to local exchange service appears to have shifted to VoIP.
8 New investments in Arizona's traditional local exchange services seem unlikely.

9
10 **4. McLeodUSA**

11 McLeodUSA's telecommunications services, in 25 Midwest, Southwest, Northwest and
12 Rocky Mountain states, continue to recover from bankruptcy and reorganization in 2002.
13 EOY 2003 revenues were 68 percent of EOY 2001. McLeodUSA offers local and long
14 distance service, Internet access and other data services, primarily to small and midsized
15 businesses. Mid-year 2004 revenues were \$385M. McLeodUSA is sustained in part by a
16 telecommunications history that began in the Midwest well before the 96 Telecom Act but
17 declining revenues for the third consecutive year and a stock price that has dropped below
18 50 cents may pose investment limits for local exchange service.

19
20 **5. XO**

21 XO sought Chapter 11 bankruptcy protection in 2002, emerged in 2003 and has since
22 completed the acquisition of Allegiance Telecom. XO began as NEXTLINK, a broadband
23 communications provider, in 1994 and combined with Concentrix to provide a broader set
24 of communications services in September 2000. XO offers a variety of access options
25 including fiber direct to buildings, DSL (digital subscriber line), and fixed-wireless

1 technologies and is primarily targeting small and midsized businesses. Although XO's
2 stock had dropped in 2004, as have many others, its mid-September price was \$3.35.

3
4
5 **6. Eschelon**

6 Eschelon originated as Advanced Telecommunications, Inc. in 1996 and now provides
7 telecommunications services in 12 markets in seven states, with only Nevada outside of
8 Qwest's ILEC area. Eschelon provides local and long-distance, Internet access, leased
9 lines, and data services, primarily to small and midsized businesses. In relative terms,
10 Eschelon is a fairly new provider with \$141M in 2003 revenues.

11
12 **7. Xspedius**

13 Xspedius is a privately held company with little known publicly about its financial
14 condition. Some recent changes, however, are typical of general changes seen in the
15 telecommunications industry. With capital infusion from Thermos Companies, Xspedius
16 acquired the assets of bankrupt e.Spire Communications and its subsidiary, ACSI
17 Network, in mid-2002. The e.Spire assets and operations acquired had an original
18 invested capital basis of \$1.6 billion and generated approximately \$200 million of revenue
19 in 2002 and \$250 million of revenue in 2003. Xspedius offers local access, long-distance,
20 dedicated Internet access, and other data services to business clients and wholesale
21 customers.

22
23 **8. Z Tel**

24 Z Tel Communications, a.k.a., Z-Tel Technologies Inc, is a publicly traded company
25 founded with the passing of the 96 Telecom act to compete using the UNE-P option. The
26 Company provides telecommunications services to consumers, business and other

1 communications companies. Z Tel's stock traded above \$40 in early 2000 but in mid-
2 September 2004 traded at \$0.45, about the time when work force reductions were
3 announced. If Z Tel is fully committed to UNE-P services, likely changes in FCC rules
4 within the next year would seem to be a major barrier.

5
6 **Q. Please summarize your conclusions about the state of CLEC Competition in**
7 **Arizona?**

8 A. (1) While there are as many as 69 CLECs listed with the ACC, only 42²⁵ CLECs can be
9 found in the Listings Information.

10 (2) 21 CLECs have 45 digital switches designated as end-offices with a maximum
11 capacity of 2,790,000 phone numbers. Whether these switches are being used primarily to
12 provide service to end-users is unclear.

13 (3) Continued use of the UNE-P competitive option is highly uncertain. Some of
14 Qwest's largest competitors in the residence market have recently announced plans to not
15 actively market to new customers based upon the uncertainties surrounding UNE-P.

16 (4) Although [redacted] of 136 Qwest wire centers have some form of competitive
17 presence, facilities-based competition can only be seen in [redacted] wire centers and
18 only [redacted] of 64 Zone 3 wire centers have facilities-based competition.

19 (5) Cable providers are in the best economic and industry position to deliver alternative
20 local exchange services. Cox is the strongest facilities-based CLEC and the only CLEC
21 with a broad network available for residence service.

22 (6) HHI's estimates, whether based on Listings information analysis or line loss, measure
23 competition well above the 1,800 threshold the DOJ uses to gauge highly concentrated
24 markets. Using Listings information produced statewide HHIs of 5,336 for Residence and
25 5,168 for Business. Using line loss produced combined HHIs of 5,483 for Phoenix and
26 5,867 for Tucson.

²⁵ See Exhibit AFF-1

1 (7) Qwest's statewide business and residence main listing shares are above 70%.

2 (8) Of the 10 CLECs noted by Qwest as primary competitors, most are actively
3 marketing service to only business customers.

4 (9) The competitive gains in the nearly 9 year window since the 96 Telecom Act was
5 passed highlight slow progress with little to support that acceleration is imminent.

6
7 **WIRELESS COMPETITION**

8 **Q. What is the state of Wireless competition in Arizona?**

9 A. Much less information is available regarding wireless competition than CLEC
10 competition. Thus, a full comparative evaluation is not possible. Nonetheless, enough
11 information points are available to allow for a reasonable understanding of the current
12 state of wireless competition and the direction in which wireless appears to be headed.

13
14 Table 13 of the FCC's June 18, 2004 report on Local Competition provides an EOY03
15 estimate of 2,843,061 wireless subscribers statewide in Arizona. This compares with
16 information from the same report estimating total statewide ILEC and CLEC wireline
17 subscribers at 3,249,408. The AZ ratio of wireless to wireline subscribers (87.5 percent)
18 is above the nationwide average of 86.6 percent; however, AZ ranks only 20th with
19 Louisiana highest at 104 percent. By any measure, the number of AZ wireless subscribers
20 is impressive and especially relevant when weighed against the FCC wireline subscribers
21 estimate separated into ILEC and CLEC, 2,541,931 and 707,477, respectively²⁶. Unless
22 the 2,843,061 wireless subscribers in AZ are *only* viewed as telecommunications market
23 expansion opportunities, some allowance must be given to wireless as a competitive
24 alternative to ILEC services and pertinent to the competitive situation facing Qwest.

25

²⁶ FCC's June 18, 2004 report on Local Competition

1 I made an effort to gauge the impact of wireless by researching and analyzing the
2 following areas: 1) number portability trends from wireline to wireless, 2) wireless usage
3 (MOUs) trends, 3) local exchange listing information for wireless users, and 4) industry
4 surveys estimating wireless displacement of wireline.

5
6 **Q. Are wireless services and packages competitive with local exchange services?**

7 A. Wireless services are available in a wide variety of packages and bundles that commonly
8 include long distance and custom calling features. Many wireless packages are in the
9 range of Qwest's local exchange service that begins at \$19.68²⁷ for residence and \$36.90
10 for business, as stated in Qwest's testimony. For some users, however, the cost of
11 wireless phones, as high as several hundred dollars, and monthly fees that can be \$50 and
12 above may present barriers. It is widely acknowledged, however, that the wireless
13 industry is reaching a state where marketing programs are increasingly being designed to
14 attract local exchange users. Some providers, perhaps most notably Cricket, are
15 undeniably targeting mass market audiences.

16
17 *According to a recent company survey, 43 percent of Cricket's customers substituted a*
18 *traditional phone at home with the exclusive use of their cell phones for household*
19 *communications. This compares to just four percent of all wireless customers who have*
20 *"cut the cord," according to the Yankee Group, a firm that analyzes telecommunications*
21 *trends.*²⁸

22
23 "Cutting the cord" is a term that is so well-established in the wireless industry that it can
24 be traced back at least four years²⁹.

25
26 **Q. What does the number portability information suggest?**

²⁷ Direct testimony of David L. Teitzel, May 20, 2004, page 60, line 17, (\$13.18 plus \$6.50 mandatory subscriber line charge)

²⁸ Cricket press release, August 17, 2004, "Cricket Customers Ditch Their Landlines"

²⁹ BusinessWeek, November 13, 2000

1 A. Number portability between wireless and wireline began in Nov'03. Even in this short
2 period, if wireless service were displacing ILEC service, significant numbers of users
3 should be seen moving from wireline to wireless. While the information made available
4 to me by a few wireless providers is not comprehensive for the wireless industry in
5 Arizona, very little impact is apparent at this time. Absent more information, I would
6 have to say that wireline local exchange users are not currently moving their service to
7 wireless carriers in great numbers by using number portability. Local information does
8 contrast, however, with national information (RCR Wireless News, September 7, 2004):

9
10 *More than 300,000 customers have cut the cord since May with more than a half a*
11 *million customers switching totally to wireless since local number portability became*
12 *available last November, according to numbers made available by the Federal*
13 *Communications Commission.*

14
15 **Q. What does the usage (MOUs) information suggest?**

16 A. Although Staff issued data requests to all wireless providers in Arizona, little usage
17 information helpful to this proceeding was provided. Information from one wireless
18 provider, though limited, does point to the type of evidence that suggests displacement of
19 local exchange services. From EOY02 to EOY03, the percent of [redacted] minutes
20 interconnecting with Qwest in the Phoenix LATA dropped by [redacted]. In the Tucson
21 LATA, the drop was [redacted] over the same period. These declines took place at the
22 same time that overall subscribership across both LATAs was *increasing* by [redacted].
23 While there is no direct evidence that any local exchange service lines were dropped, end-
24 user value, as measured in minutes of use, may arguably have shifted from the Qwest's
25 local exchange network to other forms of interconnection, such as Wireless to Wireless or
26 Wireless to CLECs. If usage is a leading indicator of end-user value, shifts in usage will
27 ultimately translate to shifts in lines and revenues. I have no conclusive wireless usage
28 evidence, however, supporting wireline local exchange displacement.

29

1 **Q. What does the listings information suggest?**

2 A. Being listed in Directory Assistance and/or the White Pages directory is seen by many
3 end-users as a standard feature of local exchange service. As such, it is possible that the
4 existence of wireless displacement could result in wireless users requesting inclusion in
5 statewide listings services. The June 18, 2004 Listings information provided by Qwest
6 was analyzed for the presence of wireless listings. No listings owned by the key wireless
7 providers referenced in Qwest's application - ALLTEL, AT&T Wireless, Verizon
8 Wireless, Cricket Communications, Nextel Communications, Sprint and T-Mobile – or
9 any wireless provider were obvious in the listings information. [redacted] business main
10 and [redacted] residence main listings were found in Qwest's name but tied to NPA-
11 NXXs assigned to Qwest Wireless. These could be numbers being ported to Qwest from
12 Qwest Wireless or foreign listings by Qwest Wireless subscribers that are listed under
13 Qwest's name. Although the level of Listings information does not allow for exactness in
14 this analysis, one top level number can be considered. The number of wireless users that
15 can be assumed to have displaced their wireline main service, as measured by inclusion in
16 the Listings information, is arguably not higher than 79 business mains and 234 residence
17 mains³⁰. These figures could include, however, main numbers that are being ported from
18 wireless providers to ILECs or CLECs. It is important to understand, however, since
19 wireless is not truly local exchange service, the inclusion of listings information even for
20 those replacing their wireline service is dampened by wireless provider practices that do
21 not appear to encourage local exchange service directory listings. The figures estimated
22 from analyzing the listings database are so low that it is possible that those using wireless
23 service in place of wireline local exchange service simply do not place a great value on
24 being included in listings databases.

25

³⁰ Figures include listings from NPANXXs assigned to wireless switches but shown in listings as owned by any provider. Pooled NXXs are not included.

1 **Q. What do industry surveys & reports suggest?**

2 A. A statement from an August, 2003 IDC³¹ report (U.S. Wireless Displacement of Wireline
3 Access Lines Forecast and Analysis, 2003-2007) provides one perspective on the expected
4 displacement by wireless.

5
6 *Wireless displacement of wireline access lines is forecast to accelerate over the next*
7 *several years as a function of wireline-wireless number portability and the increasing*
8 *role that wireless plays in the lives of consumers. IDC forecasts an additional 18 million*
9 *access lines to be displaced by wireless through 2007, with 2.4 million of those as a*
10 *result of number portability.*

11
12 The June 7, 2004 survey by National Telecommunications Cooperative Association
13 (“NTCA”) states:

14
15 *Survey results indicate that wireless displacement of wireline services is not just a threat*
16 *but also an emerging reality. In fact, wireline displacement is growing at an alarming*
17 *rate among rural youth, with 20% of survey takers saying they "rarely" use the landline*
18 *phone in their residence, up from just 13% last year. Those indicating they "never" use*
19 *the landline phone in their homes also jumped sharply, from 6% last year to 14% this*
20 *year. This trend shows the slow but steady progression of the youth market toward*
21 *complete disassociation from landline phones.*

22
23 A Yankee Group report released in March 2004 (2003 TAF Survey Findings Highlight the
24 Consumer Market's Competitive Challenges) states:

25
26 *...wireless usage is accelerating the decline of landline minutes of use. Although the*
27 *number of U.S. households that have totally cut the wireline voice cord remains small,*
28 *fifty percent of wireless households report their wireless usage has replaced some, a*
29 *significant amount or all of their regular telephone usage. The most dramatic impact of*
30 *wireless displacement on wireline voice is in long distance, where wireless users indicate*
31 *on average that they now make forty-three percent of their long-distance calls on their*
32 *wireless phones.*

33
34 Forrester Research in its March 31, 2004, Cord-Cutting Goes Mainstream report stated:

35
36 *At the end of 2003, 4% of US households that subscribe to mobile service said that they*
37 *have given up their landline service, and nearly twice that many intend to do so in the*
38 *next three years.*

³¹ International Data Corporation

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

Jupiter Research states in its April 23, 2004 report:

With wireless customer growth in the low single digits, US carriers have all announced that they are looking to landline displacement to add customers and keep minute usage up. However, under six percent of US consumers today are actually using their wireless phone as their only phone.

Perhaps the most aggressive information regarding the displacement of wireline services by wireless can be found in a February 2004 report from Scottsdale, Arizona research firm, In-Stat/MDR (see Exhibit AFF-11):

...14.4% of US consumers currently use a wireless phone as their primary phone, with the remaining 85.6% still using a landline as their primary phone. However, among those consumers still using a landline as their primary phone, 26.4% would consider replacing it with a wireless phone, demonstrating a significant potential for wireline displacement over the next five years

In-Stat/MDR has forecasted a major shift in telephone usage³² driven by men and women between the ages of 18 and 24 (see Exhibit AFF-11):

This tectonic shift in telephone service - by 2008 an estimated one-third of existing phone customers won't have land lines in their homes - threatens the customer base and future profitability of regional phone companies, especially Denver-based Qwest, which doesn't have its own wireless division

Surveys consistently report that wireless *will* displace local exchange main lines in meaningful levels. Nationally, there is survey evidence to support 4-6 percent main line displacement. Absent more local information, however, it is not clear that meaningful levels *have* been reached at this time.

Q. What about the impact of wireless on local exchange service additional lines?

³² Denver Post, October 17, 2004, "The Young and the Wireless"

1 A. Most of the survey information, as noted above, tends to address the general displacement
2 of wirelines without exact distinctions between main and additional lines. One way to
3 estimate the impact on additional lines is to consider the range of estimates in key surveys.
4 Using the difference between the upper range of 14 percent from In-Stat/MDR³³ and the
5 lower range of 4 percent-6 percent that offered by Forrester Research³⁴, Jupiter Research³⁵
6 and Yankee Group³⁶ provides an estimate of 8 percent-10 percent that could be considered
7 additional lines. Applying this range against the wireless subscriber estimate of 2,843,061
8 from the FCC (see Exhibit AFF-11), allows for a derived range of 227,444 to 284,306
9 additional line displacement. Although this is a simple estimate, it easily exceeds the
10 estimated Qwest residence additional line figure of [redacted] lines³⁷. This estimate adds
11 weight to the general belief that wireless is having its greatest impact on wireline
12 additional lines. Nationally, the FCC reports³⁸ that residence additional lines reached 26.2
13 million in 2000 and declined to 18.7 million by end of year 2002.

14
15 **Q. Did you research the FCC's position regarding wireless?**

16 A. Staff reviewed a number of FCC documents. These documents can be viewed in summary
17 as supporting a position that wireless is not a full alternative for local exchange service.

18
19 For example, the FCC recognizes in paragraph 53 of its TRO order³⁹ that the mass market
20 growth of wireless has been "remarkable". Nonetheless, the FCC goes on to say that only
21 "3 to 5 percent of wireless customers use their wireless phone as their only phone."

22 Additionally, the FCC addresses general beliefs about the impact of wireless on wireline

³³ In-Stat/MDR, February 2004

³⁴ Forrester Research, March 31, 2004

³⁵ Jupiter Research, April 23, 2004

³⁶ Delawareonline.com, The News Journal, July 23, 2004, "More phone users are hanging up land lines"

³⁷ Derived from residence lines included in Qwest's response to STF 31.1 less residence main lines in Qwest's response to STF 3.20

³⁸ FCC, Trends in Telephone Service, May 6, 2004, Table 7.4

³⁹ FCC-03-36A1

1 access lines by stating “Some carriers attribute, at least in part, the recent drop in wireline
2 switched access lines to this replacement of wireline phones by wireless phones. This
3 replacement may particularly affect second-line growth.” At paragraph 230, the FCC
4 states “... the record demonstrates that, although promising, wireless CMRS⁴⁰ connections
5 in general do not yet equal traditional landline local loops in their quality, their ability to
6 handle data traffic, and their ubiquity.” At paragraph 245, the FCC appears to summarize
7 its position by stating “Neither wireless nor cable has blossomed into a full substitute for
8 wireline telephony”. An important fact can be found in footnote 702 of the FCC TRO
9 order “ AT&T points out, for example, that wireless service is engineered to provide only
10 roughly 70% call completion rate while wireline call completion rates exceed 99%.”

11
12 **Q. Is it possible to estimate an HHI with the inclusion of wireless?**

13 A. Combining the 14 percent displacement figure from In-Stat/MDR, a well-known market
14 research firm, as a top-line estimate with a set of related assumptions (see Exhibit AFF-
15 11) and the CLEC and Qwest listings information, it is possible to calculate HHI estimates
16 that include wireless. With wireless, the business HHI changes from 6,333 to 3,825 and
17 the residence HHI changes from 6,124 to 4,747. While much lower, HHIs that included
18 wireless estimates demonstrate a high level of market concentration. Indeed, these figures
19 remain well above the range (1,000 - 1,800) used by the DOJ to characterize moderately
20 concentrated markets. For completeness, I estimated an HHI of 3,624 for total access
21 lines by making assumptions about additional line displacement by wireless combined
22 with the line estimates provided in response to RUCO’s data request #2. These figures
23 illustrate a dramatic impact, assuming wireless can truly be considered a competitive
24 alternative for local exchange service.

25

⁴⁰ Commercial Mobile Radio Service

1 Although it is important to consider estimates and to test key assumptions where more
2 exact information is not available, I still believe that the market evidence is insufficient to
3 reasonably conclude that wireless is a competitive alternative for local exchange services
4 in the same context as services provided by CLECs.

5
6 **Q. Please summarize your conclusions about the state of Wireless Competition in**
7 **Arizona?**

- 8 A. (1) The number of wireless phones in Arizona equate to about 87.5 percent of the
9 wireline phones, according to the FCC's June 18, 2004 report on Local Competition.
- 10 (2) Many wireless providers appear to be participating in the AZ markets served by
11 Qwest – ALLTEL, AT&T Wireless⁴¹, Nextel, Sprint, Verizon, T-Mobile, and, of course,
12 Qwest Wireless⁴².
- 13 (3) Wireless packages and services are becoming competitive with wireline packages.
- 14 (4) Listings analysis does not indicate a significant number of wireline customers using
15 wireless as a substitute for local exchanges service.
- 16 (5) Number portability figures do not indicate a major shift of wireline local exchange
17 customers to wireless.
- 18 (6) Limited MOU information does suggest a major reduction in interconnection
19 minutes between Qwest and wireless providers.
- 20 (7) Market research firms support wireless displacement of wireline in the low range of
21 4 to 6 percent with one firm (In-Stat/MDR) estimating a high point of 14.4 percent using
22 wireless as their *primary phone*.
- 23 (8) The data I reviewed indicates that wireless may have had its greatest impact on the
24 displacement of additional lines and wireline local exchange minutes of use.

⁴¹ Acquisition by Cingular completed October 26, 2004

⁴² The Commission recently approved Qwest Wireless' transfer of its wireless assets to Sprint. In its Application, Qwest Wireless indicated that it would continue to provide wireless service to customers, but as a reseller.

1 (9) The FCC recognizes the growth of wireless in mass markets but does not believe
2 wireless is a full substitute for wireline telephony. The FCC estimates that 3 to 5 percent
3 of wireless customers use their wireless phone as their only phone.

4 (10) Even using estimated wireless market share figures, HHIs calculated on a statewide
5 level remain well above the 1,800 threshold the DOJ uses to gauge highly concentrated
6 markets. Combining the highest estimate of wireless displacement with the listings
7 information produces a business HHI change most favorable to Qwest from 6,333 to 3,825
8 and a residence HHI change from 6,214 to 4,747.

9 (11) Qwest does not include wireless in its competitive zone criteria but Staff believes
10 some consideration is warranted under R14-2-1108 analysis. The degree of consideration
11 would depend upon the extent wireless acts as a substitute for primary wireline service.
12

13 **VOIP COMPETITION**

14 **Q. What is the state of VoIP competition in Arizona?**

15 **A.** Staff sent a data request⁴³ to all ILECs and CLECs in Arizona to understand the current
16 state of VoIP services as provisioned by local exchange carriers. Of 31 ILECs and CLECs
17 that responded, only [redacted] indicated any participation with some form of VoIP
18 service in Arizona. Qwest indicated it has no operating agreements with providers of
19 VoIP services and no knowledge of VoIP traffic interconnecting with its network.
20

21
22 I also made the same inquiry of the VoIP providers identified by Qwest in its application –
23 Five Star, Vonage and Packet8. Vonage and Packet8, a.k.a, 8x8, Inc., indicated that VoIP
24 services are being marketed in Arizona and that interconnection with the PSTN is being
25 facilitated by agreements with select CLECs. Their responses also make clear that the

⁴³ AFF 1.1 to AFF 1.5

1 current end-user base is very low. Vonage explained it has approximately 200,000 users
2 in North America with Arizona constituting less than 10 percent of all subscribers.

3
4 AT&T announced⁴⁴ in July 2004 that it would be shifting its local telephony efforts to
5 VoIP. "*...it is shifting its focus away from traditional consumer services such as wireline*
6 *residential telephone services, and concentrating its growth efforts going forward on*
7 *business markets and emerging technologies, such as Voice over Internet Protocol...."* At
8 the same time, AT&T announced the availability of its VoIP, residential CallVantageSM
9 Service in 100 markets nationwide. (see Exhibit AFF-12) As of September 8, 2004,
10 CallVantageSM was available in Arizona 928, 480, and 520 area codes but not in 602 and
11 623. Given the flexibility afforded by VoIP, however, it may be possible for users in 602
12 and 623 to obtain VoIP service from AT&T by using numbers assigned to other NPAs,
13 such as 928, 480, or 520.

14
15 MCI has been in various stages of VoIP deployment since mid-2003 when Fred Briggs⁴⁵,
16 MCI President of Operations and Technology stated "By 2005, MCI plans to move 100
17 percent of our traffic to an all IP core..." MCI Advantage VoIP is available in all 115 U.S.
18 metropolitan service areas where MCI owns local service facilities.

19
20 In August, 2004, Sprint announced⁴⁶ its third agreement in the last eight months in which
21 it will help a cable provider offer telephone services using VoIP technology. In December
22 2003, Sprint agreed to provide VoIP services to Time Warner Cable, with 11 million cable
23 customers nationally. Of the three cable providers which have agreements with Sprint -

⁴⁴ AT&T news release, 7/22/04

⁴⁵ MCI news release, 6/3/03

⁴⁶ Associated Press, 8/12/04, "Sprint, Mediacom Announce VOIP Deal"

1 Mediacom, USA Companies of Kearney, NE or Time Warner Cable – only Mediacom has
2 a presence in Arizona with a few small cable systems outside of Phoenix and Tucson.

3
4 In June, 2004, Qwest launched its Qwest OneFlex™ VoIP service for business customers,
5 following with IP Centrex service in early September. Phoenix is one the four markets in
6 which Qwest initially launched OneFlex™. (see Exhibit AFF-13)

7
8 While Cox is much larger than any other cable provider in Arizona, it is worth noting that
9 others do exist and will ultimately be capable of facilitating, and even providing directly,
10 VoIP services with their broadband services. Adelphia⁴⁷ provides service in Yuma and
11 Cable America⁴⁸ provides service in Coolidge, Florence, Mesa, Queen Creek and
12 Wickenburg.

13
14 **Q. Can the impact of VoIP service be seen in the listings information?**

15 A. I was unable to see any discrete listings information pertaining to VoIP services. This
16 primarily results from two factors. (1) VoIP services are not regulated by the ACC as
17 local exchange services. For that reason, VoIP providers are under no obligation to
18 facilitate the local exchange listings or E-911 needs of end-users. [redacted], for example,
19 is believed to be helping VoIP providers with interconnection services, such as providing
20 new telephone numbers and facilitating numbers being ported from CLECs or ILECs,
21 however, [redacted] listings are not apparent in the listings information. (2) CLECs that
22 may be self-provisioning VoIP services may not be separating their local exchange
23 services number assignments from VoIP number assignments since practices do not exist
24 for this requirement.

25

⁴⁷ <http://www.adelphia.net/>

⁴⁸ <http://www.cableamerica.com/>, <http://www.cableaz.com/>

1 I did perform one listings analysis test to provide more insight into part of the VoIP local
2 situation. With the VoIP end-user's permission, I requested the listings ownership
3 information from Qwest for a telephone number that was ported from Qwest to a CLEC
4 facilitating service for a VoIP provider. The information provided by Qwest indicates that
5 [redacted] is facilitating the provision of VoIP services to end-users. Other CLECs and,
6 perhaps, Wireless providers and ILECs may also be helping to facilitate VoIP services.
7 The facilitation could be done by any provider with a local switch that interconnects to the
8 PSTN.

9
10 My analysis implies that the number of VoIP service end-users is very low at this time.
11 The number of VoIP end-users in the listings database could be several thousand or could
12 also be as low as 1 verified end-user. There really is no simple way to conclusively
13 determine VoIP end-user levels at this time.

14
15 **Q. What are the major factors that drive VoIP deployment?**

16 **A.** There are a few startup costs associated with VoIP but they are relatively modest. One
17 example is the phone adapter which is needed to allow analog phones to function with
18 broadband service. While the analog phone adapter might cost \$50 to \$100, some
19 providers, like Vonage, supply the adapter free to new customers. The most important
20 factor is the availability of broadband technology, such as DSL, typically provided by
21 ILECs and CLECs, or cable modems, typically provided by cable companies like Comcast
22 and Cox Communications.

23
24 Cox Communications passes about [redacted] homes in the Phoenix metro area and about
25 [redacted] homes in the Tucson metro area. All these homes are capable of receiving
26 broadband service. Qwest is capable of providing broadband service to over [redacted]

1 of all business or residence accounts in Phoenix and Tucson. In Phoenix, Qwest serves
2 about [redacted] of its residence customers with broadband, in Tucson, the comparable
3 figure is [redacted]. Cox did not provide its broadband penetration.

4
5 A surprising Nielsen survey⁴⁹ conducted in September 2004, concluded that 1.44 million
6 broadband connections already exist in metro Phoenix. In that survey, Phoenix broadband
7 connectivity was found to be second only to San Diego in the country's top 35 metro
8 areas.

9
10 These figures suggest that the technological foundation for widespread acceptance of
11 VoIP already exists. With the full resolution of operational factors that have bearing on
12 the maintenance and monitoring⁵⁰ of VoIP service by providers, the only barriers
13 confronting VoIP service are the absence of E-911, expanded broadband penetration and
14 customer awareness.

15
16 It is worth noting that the recent FCC decision⁵¹ that relieves the RBOCs of most
17 obligations to unbundle fiber optic broadband local networks should help increase the
18 availability of broadband needed for VoIP access as the RBOCs invest in fiber-to-the-
19 home ("FTTH") and similar networks.

20
21 **Q. What is the projected future of VoIP service?**

22 A. Most projections regarding VoIP services are very optimistic. One of the most avid
23 supporters is FCC Chairman Michael Powell. In May of this year, Chairman Powell told

⁴⁹ The Arizona Republic, October 3, 2004, "Catching the Wave"

⁵⁰ TechNewsWorld.com, September 28, 2004, "VoIP Looms Large, But Problems Persist"

⁵¹ FCC news release, October 14, 2004, "FCC Removes More Roadblocks To Broadband Deployment In Residential Neighborhoods"

1 the National Cable & Telecommunications Association's annual meeting in New Orleans⁵²
2 "I think it's going to turn (the telephone industry) on its head and remake itself into
3 something that consumers are going to find enormously valuable,"

4
5 The cable companies are probably perceived on the leading edge of joining their
6 broadband deployment with VoIP services. Time Warner has stated it expects to offer
7 VoIP calling to all of its 10 million plus subscribers by end-of year 2004. In May, 2004,
8 CNET News.com reported that "Cox once thought that it would save about 10 percent in
9 capital expenses when choosing VoIP over circuit switches. But that savings is now about
10 40 percent." Reuters also reported in May, 2004, that Comcast, the nation's largest cable
11 operator expects to offer VoIP service to half of its 21M subscribers by the end of 2005
12 and to 40 million households by end of 2006.

13
14 In May, 2004, the Rocky Mountain News reported⁵³ "An estimated 25 million homes in
15 the United States have broadband, with cable modems accounting for more than 16
16 million connections vs. about 9 million for phone companies, which offer broadband
17 through digital subscriber lines. The number of U.S. households with broadband is
18 expected to increase by 8.5 million this year, a 30 percent spike."

19
20 A study by Mercer Management Consulting announced⁵⁴ in June 2004 "expects
21 established ISPs to double their anticipated market share over what it called current low
22 quality VoIP offerings over the next three years and grab up to 30 percent of the
23 residential voice market."

24

⁵² National Cable & Telecommunications Association, May 4, 2004, New Orleans, "Conversation with NCTA
President Robert Sachs"

⁵³ Rocky Mountain News, May 5, 2004, VoIP Hailed as the Future

⁵⁴ Internetnews.com, June 15, 2004, Study Says Big Players to Dominate VoIP

1 In June, 2004, CNET News.com offered perhaps the most noteworthy announcement of
2 all. “BT Group, a U.K. telecommunications provider, plans to transform its infrastructure
3 into a pure Internet Protocol-based network by 2009.” “BT⁵⁵ plans to begin mass
4 migration from PSTN to IP in 2007. It is starting with a Voice over Internet Protocol, or
5 VoIP, trial involving 1,500 customers this year.”

6
7 With all the forecasts regarding wireline based VoIP services, it is easy to lose sight of the
8 broadband capabilities that will be afforded by continuing advancements in wireless. End-
9 users in less densely populated areas will be especially advantaged by such offerings.
10 TeleSpectra, LLC, Network Service, for example, began providing broadband services in
11 Wickenburg in July⁵⁶. Once any form of broadband service is available, VoIP service is
12 enabled.

13
14 This is just a sample of the announcements and forecasts concerning the future of VoIP.
15 The weight of speculative evidence certainly tends to support VoIP competition. At this
16 time, however, little factual evidence exists to support VoIP as a viable alternative to local
17 exchange service.

18
19 **Q. Are there any downsides to VoIP competition?**

20 **A.** All of the positive industry support, bolstered by the FCC, tends to downplay operational
21 problems that become more obvious as any new services begin to reach large scale
22 deployment. It has come to Staff’s attention that there are significant challenges in
23 network management⁵⁷, similar in part to those which providers already using the PSTN
24 have overcome. Full resolution of these challenges will require clear standards to

⁵⁵ BT or BT Group is also known as British Telecom or British Telecommunications. In the UK, BT serves over 21 million corporate and residential customers with more than 28 million exchange lines.

⁵⁶ <http://www.wickenburgsun.com/articles/2004/07/07/news/news08.txt>

⁵⁷ TechNewsWorld.com, September 28, 2004, “VoIP Looms Large, But Problems Persist”

1 facilitate product development to manage and monitor complex services that must
2 ultimately be billed quickly and accurately. Without overcoming these challenges, some
3 believe that VoIP providers will have difficulty becoming profitable. This area of concern
4 does not diminish from the ultimate potential for VoIP but does add further weight to the
5 belief that VoIP is not yet a full alternative for local exchange service.

6
7 **Q. Is it possible to estimate an HHI with the inclusion of VoIP competition?**

8 A. The numerical information available for VoIP services is so limited that I am not able to
9 include VoIP in an HHI measure. Even if the number of VoIP subscribers were known,
10 the levels are likely too low at this time to have any impact on the HHI measure. Any
11 HHI number that includes elements of VoIP would be highly speculative.

12
13 **Q. Please summarize your conclusions about the state of VoIP Competition in Arizona?**

14 A. (1) The telecommunications industry, in general, and the FCC, specifically, are very
15 positive about the future of VoIP services.
16 (2) Major CLECs have announced plans to participate in VoIP competition.
17 (3) VoIP end-users cannot be found in the Listings information.
18 (4) VoIP service is dependent on the continuing penetration of broadband services
19 which today is low at least for Qwest if its own figures are used.
20 (5) Some operating challenges appear to remain before VoIP service can become widely
21 deployed to mass markets. Resolution of these challenges will require clear standards to
22 facilitate product development to manage and monitor complex services that must
23 ultimately be billed quickly and accurately
24 (6) Estimating HHIs with the inclusion of VoIP services is not feasible at this time.
25 (7) Qwest does not include VoIP in its competitive zone criteria. The available
26 information suggests that further consideration is not warranted at this time. If VoIP

1 becomes more prevalent and acts as a substitute for local exchange services, it could be
2 considered in an R14-2-1108 analysis in the future.

3
4 **CONSIDERATIONS RELATING TO QWEST'S PROPOSAL FOR COMPETITIVE**
5 **ZONES**

6 **Q. Where is Qwest requesting Competitive Zones?**

7 A. I should start by explaining that Qwest is requesting two wire center groups defined as
8 Phoenix and Tucson MSAs. For clarification, there are 11 cities in the Phoenix MSA
9 grouping that are not part of the Phoenix local calling area – Dudleyville, Kearney, Oracle,
10 Florence, Mammoth, Superior, Coolidge, Eloy, Gila Bend, Casa Grande, and San Manuel.
11 Five of these 11 towns – Dudleyville, Kearney, Oracle, Mammoth, and San Manuel - are
12 also in the Tucson LATA, not the Phoenix LATA. For the purposes of my analysis and
13 testimony, I continued with the Phoenix and Tucson MSA groupings as submitted by
14 Qwest, therefore, you will see the 11 towns noted above within my Phoenix analysis data
15 and associated with Phoenix in several of my exhibits.

16
17 Specifically, Qwest is requesting Competitive Zone classification for 63 wire centers in
18 Phoenix metro and 19 wire centers in Tucson metro.

19
20 **Q. Is information available to allow for analysis of wire centers as competitive zones as**
21 **proposed by Qwest?**

22 A. A general concern involves the measurement data parameters. Wire centers are historical,
23 wireline, local exchange designations used by ILECs, such as Qwest. Since Qwest is the
24 entity seeking competitive zones it seems fair to consider the parameters they propose,
25 however, many new telecommunications entrants do not define their service areas on the
26 same terms. Facilities bypass providers, not dependent on Qwest for unbundled elements

1 or resale services, have no need to align their tracking systems to fit the wire center
2 methodology of the incumbent local exchange carrier. Analyzing competitive information
3 on the basis of Qwest's wire centers becomes problematic as the set of market participants
4 broadens. Resale and UNE competitive options can be easily framed by wire center
5 boundaries because the facilities are those of Qwest, the ILEC. Full bypass competition,
6 however, has to be estimated or developed through special studies in order to fit wire
7 center parameters unless the CLEC has chosen to mirror Qwest's wire center boundaries.
8 The information fit becomes more extreme as wireless and VoIP competition are
9 considered. In using the wire center parameters for areas that could be deemed
10 competitive, there is a sense of trying to fit information derived from new and emerging
11 competition into a measurement scheme intended to facilitate regulated services. Wireless
12 and VoIP providers appear to make no use of Qwest's wire center boundaries. The only
13 service location known for a wireless user is the nearest cell site. VoIP users are able to
14 move their equipment and service to other broadband access points and, consequently, are
15 also not restricted by physical boundaries. Therefore, evaluating competitive zones at the
16 ILEC wire center level requires a full appreciation of the inherent measurement and
17 analysis weaknesses associated with the available information.

18
19 It may be true that if competition can be easily defined and characterized within ILEC
20 wire center parameters, then the competitive situation is by definition neither broad nor
21 diverse. Confirming competition within ILEC wire centers parameters may actually be a
22 confirmation of the least impactful forms of competition rather the most impactful.

23
24 **Q. Is there another methodology that should be considered by the Commission if it**
25 **adopts competitive zones?**

26 A. No methodology appears perfect but one that appears to give the most flexibility is
27 dependent on a geographic measure that is broadly accepted by many industries – the zip

1 code. Zip codes are geographic definitions provided by the US Postal Service and used by
2 all telecommunications providers for service and billing operations. Using zip code based
3 information would allow competitive zone consideration at the highest level – statewide -
4 or the lowest level – the discrete zip code – with several possibilities in between, such as
5 city and county levels. Without use of zip code information, for example, analytical
6 consideration of Qwest’s related proposal for competitive zones defined by geographies
7 other than wire centers, such as housing developments, is impractical. Housing
8 developments may cross wire center boundaries or cover less than a full wire center. The
9 use of zip code level information also lays the groundwork for the eventual inclusion of
10 market information from emerging competitive alternatives, such as wireless and VoIP.

11
12 Staff initiated actions to obtain zip code level information for this proceeding but has been
13 unable to conclude its analysis based on such information, as further explained in the
14 testimony of Staff witness Matthew Rowell. Therefore, Staff has conducted its
15 competitive zone analysis with traditional wire center information.

16
17 **Q. If the Commission were to adopt Qwest’s first criteria⁵⁸ to determine competitive**
18 **zones, in which wire centers do competitors have facilities in place?**

19 A. Information provided by Qwest in response to a RUCO data request points to 21 facilities-
20 based CLECs (see Exhibit AFF-14) across Qwest wire centers. As explained earlier,
21 Qwest’s estimate of facilities-based competitors is based on its knowledge of LIS trunk
22 information. Allowances must also be made for the timing of information provided.
23 Some CLECs noted below appear to no longer be in service, such as Intermedia⁵⁹ and
24 Winstar, and some CLECs, such as KMC Telecom, are not yet providing end-user service.

⁵⁸ See Direct testimony of Matthew Rowell

⁵⁹ Thomas Dixon email, 10/12/04, “...Intermedia Communications while still holding a local CCN does not offer any local services and has no local customers or line counts...”

1 82 wire centers requested by Qwest would qualify based on the LIS trunk measurement.
2 The remaining 21 wire centers requested by Qwest do not pass on this measure. (See
3 Exhibit AFF-16)
4

5 **Q. Does this mean that all of these competitors are providing facilities-based local**
6 **exchange service to residence and business customers in Qwest's service territory?**

7 A. No. Its worth emphasizing that some CLECs are no longer in service, as explained earlier,
8 others are providing services that do not directly involve end-users and some may be
9 serving business or residence customers but not both.
10

11 **Q. If the Commission were to adopt Qwest's second criteria⁶¹ to determine competitive**
12 **zones, in which wire centers are competitors utilizing unbundled network elements?**

13 A. Exhibit AFF-17 includes information for UNE-L, UNE-P and Resale competitors by wire
14 center requested for competitive zone designation. This information was provided by
15 Qwest in response to a RUCO data request⁶². Only 39 of the 82 wire centers requested
16 have UNE-L CLECs, of which 30 are in the Phoenix MSA and 9 in the Tucson MSA.
17 Surprisingly, all UNE-L competition as identified by the Qwest data response comes from
18 only 9 CLECs. That only 9 of the 64 CLECs noted by Qwest as listed on the ACC's
19 website or the 42 I found active in the Listings information were found to be participating
20 in UNE-L competition reflects the general lack of acceptance of the UNE-L competitive
21 option.
22

23 UNE-P presence can be seen in 80 of 82 wire centers requested for competitive zone
24 designation. The two that do not exhibit UNE-P presence are Dudleyville and Whitlow,
25 associated with Phoenix metro but well on the southeast perimeter. By the 2nd proposed

⁶¹ See Direct testimony of Matthew Rowell

⁶² RUCO DR #2

1 Qwest measure⁶³, UNE-P has more CLEC presence in wire centers than any type of
2 competitive alternative. All UNE-P competition as identified by the Qwest data response
3 comes from only 17 CLECs.

4
5 **Q. If the Commission were to adopt Qwest's third criteria⁶⁴ to determine competitive**
6 **zones, where are competitors utilizing the resale of Qwest services?**

7 A. Exhibit AFF-17 also notes that competitive presence attributable to Resale can be found in
8 77 wire centers requested for competitive zone designation. Wire centers not seen with
9 resale competition are Foothills, Rio Verde, Oracle, and Kearney, all associated with
10 Phoenix metro, and Mt. Lemmon, associated with Tucson. In terms of just wire center
11 presence, Resale is the second-highest form of competition, ranking between UNE-P in 80
12 wire centers and facilities-based CLECs in 61 wire centers. Related to the 3rd measure⁶⁵
13 proposed by Qwest, I found 28 CLECs participating in resale competition within the
14 information provided by Qwest.

15
16 **Q. Can you summarize the CLEC presence in the wire centers requested by Qwest for**
17 **competitive zone classification?**

18 A. Exhibit AFF-18 provides a comprehensive view of the CLECs and their form of
19 competition in the wire centers requested for competitive zone classification, based on
20 information provided by Qwest in response to a RUCO data request. If participation in all
21 forms of competitive options is a measure of diverse competition, note that only three
22 CLECS, AT&T, MCI and McLeodUSA, meet that standard in the wire center data
23 provided by Qwest, yet, by the measures proposed by Qwest, all 82 wire centers would
24 qualify as competitive zones. Exhibit AFF-19, however, provides more context for each

⁶³Qwest Revised Cap Plan, page 2, "A competitor is marketing or offering services through the provision of unbundled network elements provided by Qwest"

⁶⁴ See Direct testimony of Matthew Rowell

⁶⁵ Qwest Revised Cap Plan, page 2, "A competitor is marketing or offering services through the resale of Qwest's service."

1 wire center. Note, for example, that Circle City, Dudleyville, Rio Verde, Gila Bend,
2 Kearney, Mammoth, Oracle, Superior, Stanfield, White Tanks, Whitlow, Wintersburg, Mt.
3 Lemmon, and Vail North – 14 of the wire centers requested - have considerably less
4 CLEC presence than other wire centers. That points to low levels of competitive impact.
5 In order to gauge impact, new measures such as market share, growth trends or actual
6 losses have to be considered.

7
8 **Q. Can you put the competitive impacts and your concerns with Qwest's proposal in**
9 **context?**

10 A. Exhibit AFF-20 begins to present a more complete picture at the wire center level. It is
11 based on information submitted by Qwest in DLT-17⁶⁶ with responses to RUCO DR #2
12 and related analysis appended. As presented in Exhibit AFF-20, the information is sorted
13 in order of Qwest wire center business line decline by Zones 1, 2, and 3 for Phoenix and
14 Tucson areas. Simply studying the Qwest line changes for each wire center from EOY
15 2000 to EOY 2003 is very instructive. 21 UNE Zone 1 wire centers in the Phoenix MSA
16 have Qwest declines of more than [redacted] over the 2000 to 2003 period with an
17 additional 7 wire centers in Zones 2 and 3. Tucson has a total of 7 wire centers that meet
18 this standard. The comparable figures for residence are 28 UNE Zone 1 wire centers in
19 Phoenix with an additional 4 in Zones 2 and 3. Tucson has a total of 11 wire centers with
20 residence declines in excess of [redacted].

21
22 Other columns in this exhibit give the line changes additional context. For example, how
23 is it possible that Phoenix North wire center business lines have declined [redacted] in the
24 three year period while Qwest's market share is estimated at [redacted]? Here is one
25 possibility. Assuming that all the data are reasonably correct, it is possible that the
26 proportion of business lines to residence lines is comparatively small. Phoenix South

⁶⁶ Revised per Qwest's response to DR 3.15

1 might have a very high proportion of residence lines since it has declined [redacted] in
2 residence lines but is at [redacted] in market share. The type of loss can help give some
3 context to the sustainability of the competitive presence. For example, 9 wire centers had
4 business or residence declines for Qwest greater than [redacted] during the three year
5 period but have no facilities bypass CLECs. Does that seem possible? Studying this
6 further you see that all 9 wire centers are in UNE Zone 3. Some judgment must then be
7 given to the sustainability of the competitive activity given the uncertainty of competition
8 based on Resale and UNE options. The timing of the information may be highlighted by
9 the Phoenix Main data. Notice that the business and residence line declines from 2000 to
10 2003 are [redacted] and [redacted] respectively, while Qwest's market share is
11 [redacted] How is that possible? Absent data concerns, one answer is that a considerable
12 amount of competition in Phoenix Main occurred between 1996 and 2000, previous to the
13 three year period of 2000 to 2003. Given the early focus on business by CLECs, it is
14 logical to assume that wire centers dominated by business lines may be reaching or have
15 reached a competitive steady-state. There is a point, however, at which data concerns
16 regarding the translation of LIS trunks to line loss estimates must be considered. The San
17 Manuel wire center, for example, indicates a CLEC market share of [redacted] San
18 Manuel also happens to be 1 of only 3 wire centers with facilities competition in the 19
19 wire centers with total Qwest lines of 5,000 or below. In the other two wire centers,
20 Laveen and Vail South, Qwest's business and residence line changes are positive over
21 three year period, making San Manuel unique. Further analysis, discloses that [redacted]
22 of the [redacted] line decline is attributable to the LIS trunk translation to facilities line
23 loss estimate corresponding to one CLEC. This helps illustrate how information based on
24 estimates can be problematic for analysis and raises the importance of proper context.

25
26 **Q. Are there areas below the wire center level that could be considered as Qwest requests**
27 **in its application?**

1 A. As suggested in Qwest's application, Staff sought to understand the competitive situation
2 pertaining to the identified housing developments. This effort helps illustrate the issues
3 involved with non-traditional local exchange parameters. Staff issued a data request on
4 August 19, 2004 to Qwest and the 10 CLECs identified in Qwest's May 20, 2004
5 application. Among the CLECs, only Cox responded in substantial form. All others
6 answered that they were unable to track customers by housing development name⁶⁷.

7
8 Cox provided information related to 9 housing developments, 5 of which have agreements
9 with Qwest. Qwest supplied information for 10 developments, 2 of which have
10 agreements with Cox. Cox does not have customers in 10 of 15 developments in which
11 Qwest has agreements. Qwest does not have customers in 12 of 14 developments in
12 which Cox has agreements. While Qwest and Cox residence service figures are very
13 similar, only Qwest reported serving business customers in any housing developments.

14
15 Limited information makes it impossible to analyze the competitive situation concerning
16 housing developments, which may have signed preferred marketing and/or limited
17 operating agreements with either Cox or Qwest. A few points stand out. (1) Cox and
18 Qwest appear to be serving a similar number of housing developments with preferred
19 agreements that do not preclude competitive offerings but may constrain marketing efforts
20 by other CLECs. (2) Both Cox and Qwest appear to be making efforts to compete for
21 customers in housing developments⁶⁸ in which they do not have preferred agreements, not
22 just developments in which they do have preferred agreements. (3) Many of the housing
23 developments with preferred agreements appear to be in early stages of development and
24 are not being served by either Cox or Qwest at this time.

25

⁶⁷ Housing development names were provided by Qwest in response to DR 3.10

⁶⁸ Qwest did not provide copies of housing agreements in response to STF 20.3

1 While Staff intends to open a generic docket to examine the issue of preferred provider
2 agreements, Staff sees no reason why Qwest should not be allowed to seek competitive
3 designations for smaller locations such as housing developments, subject to the limitations
4 and concerns noted in Mr. Rowell's testimony.

5
6 **Q. Please summarize your concerns regarding the classification of competitive zones**
7 **based only upon the presence of a competitor in a wire center, as proposed by**
8 **Qwest?**

9 A. The wire center information available from Qwest might lead to some conclusions if
10 evaluated on a standalone basis but in the context of additional information, conclusions
11 become difficult. Here are a few examples.

12
13 My wire center level analysis based on information provided by Qwest identified one wire
14 center with an HHI of 1,319 – Phoenix Main. Given my earlier discussion of HHIs,
15 Phoenix Main would appear to be an ideal candidate for competitive zone classification,
16 however, closer inspection of the Phoenix Main information begins to raise questions.
17 The composition of CLECs in Phoenix Main is heavily skewed towards facilities bypass
18 competition making the LIS trunk estimate translation to lines especially important. The
19 first observation from Exhibit AFF-21⁶⁹ that must be noted is the number of CLECs with
20 significant numbers of lines which are included in Phoenix Main as facilities providers but
21 not participating in end-user local exchange service - Level 3, Intermedia, and Winstar, for
22 example. These three constitute a total estimate of [redacted] in Qwest's wire center
23 competitive loss information. Global Crossing is shown as having [redacted] lines but
24 does not appear in the listing data at all. North County is shown as having [redacted]
25 lines but indicated directly to Staff that it does not provide end-user services. Pac-West is
26 shown as having [redacted] lines but has only [redacted] main listings. While it may be

⁶⁹ CLEC names in Exhibit AFF-20 are shown as included in the Qwest data response to RUCO DR#2

1 possible, Pac-West's [redacted] ratio of total lines to main lines is difficult to accept
2 without supporting information. Just by examining more closely the type of competition
3 raises questions about [redacted] facilities bypass lines or [redacted] of the entire
4 facilities bypass estimate.

5
6 Utilizing the zip code information provided by five key competitors – Cox, AT&T⁷⁰, MCI,
7 Mountain Tel and Eschelon – adds more context. Notice in Exhibit AFF-21 that the
8 facilities bypass estimated figures for these five CLECs totals [redacted]. By
9 comparison, the zip code information provided by the five CLECs and mapped to the
10 Phoenix Main zip codes⁷¹ totals only [redacted] (Exhibit AFF-22), a reduction of
11 [redacted] lines.

12
13 By examining more closely the type of competitors and considering the zip code
14 information submitted by only five CLECs, [redacted] of the total wire center competitive
15 figures from Qwest are drawn into question. This helps illustrate the analysis value that
16 could be gained by *all* CLECs providing zip code level information. At issue is not which
17 estimate methodology is most useful but that more than one methodology must be used
18 when exact figures are not available. The Qwest wire center information is, perhaps,
19 based on too broad⁷² an estimate without exactness for the type of competition.

20
21 Exhibit AFF-22

22 Phoenix Main Wire Center

⁷⁰ AT&T only provided residence lines by zip code

⁷¹ Wire center zip code definitions provided by Qwest in response to STF 33.1

⁷² Qwest used a translation figure of 2.75 which could be as high as 10. "...this is a conservative assumption...a single trunk can support up to approximately 10 facilities-based lines (source: UNE Fact Report, Section III, P. 14, May 26, 1999)"

Zip Code	Percentage of Sqmiles of Zipcode within Wire Center	Non-Q bus & res lines	Derived non-Q bus & res lines
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

1
2
3
4
5
6
7
8
9
10
11
12
13

I can offer examples that highlight potential candidates for competitive zones that are not easily identified by the Qwest wire center information. The Higley wire center has an HHI of 6,259 based on Qwest’s wire center information. The zip code referenced above, however, when mapped against Higley’s zip codes yields surprising results. Qwest’s wire center information suggests a market share loss of [redacted] but the zip code information, even in limited form, suggests Qwest has lost [redacted] share. While the estimated information based on LIS trunks used for Phoenix Main may have been too high, the estimated information for Higley may be too low.

Exhibit AFF-23

Higley Wire Center

Zip Code	Percentage of Sqmiles of Zipcode within Wire Center	Non-Q bus & res lines	Derived non-Q bus & res lines
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
			[redacted]

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Another example illustrates the most powerful value that may be gained from the zip code information. Consider the wire center analysis dilution that occurs when a highly competitive area is spread across more than one wire center. Such appears to be the case for Vail North, in southeast Tucson metro. Using Qwest’s wire center information, Vail North only has an HHI of 9,756 with a market share loss of [redacted]. This would appear to suggest that Vail North is far from competitive. Qwest does not even appear to believe that Cox has a competitive presence in Vail North⁷³. The available zip code information, however, discloses that Qwest *may have* a share loss of [redacted] in Vail North. The zip codes that have the greatest impact on Vail North’s data are [redacted], [redacted] and [redacted]. These zip codes are found in a total of 9 wire centers dramatizing the importance of analyzing information in a non-traditional, non-ILEC manner.

Exhibit AFF-24

Vail North Wire Center

Zip Code	Percentage of Sqmiles of Zipcode within Wire Center	Non-Q bus & res lines	Derived non-Q bus & res lines
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
			[redacted]

⁷³ Qwest exhibit DLT -17

1 Despite devoting considerable effort to the zip code approach, I would like to emphasize
2 no approach is perfect. Like wire centers, zip codes vary greatly in size and estimates
3 would still result from the mapping of information across wire centers. The most
4 important factor is ensuring that all CLECs supply information based on service address
5 zip codes, not billing address zip codes. It is my belief, however, that the results are more
6 likely to truly reflect market conditions, and offer a means to include emerging
7 technologies, such as Wireless and VoIP.

8
9 **Q. What is your recommendation for continuing measurement and analysis of**
10 **competitive zones?**

11 A. I have presented analysis in my testimony from various sources to lend the most context
12 possible to the competitive situation. I believe, however, that much greater confidence
13 and reliability could be added by moving from traditional ILEC geographic boundaries to
14 a relatively simple measure used not only in telecommunications but in all industries – zip
15 codes. I recommend the following actions.

16
17 (1) With the availability of local exchange business and residence customers and
18 corresponding local exchange business and residence access lines by service address zip
19 codes, a comprehensive geographic analysis could be conducted including data from
20 Qwest, CLECs and even Wireless⁷⁴ providers adding increased confidence and certainty
21 to any decision made by the Commission regarding competitive zones. The zip code
22 information could be aggregated at any level needed to support Commission decisions.

23
24 (2) This methodology could be put in place to facilitate future competitive zone
25 considerations by adding the submission of service address zip code level information to
26 the existing annual report requirements of all providers.

⁷⁴ Only billing zip codes are known to be available for Wireless service.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

(3) I also recommend continuing analysis of listings information as illustrated earlier in my testimony to provide a broad perspective of the competitive situation based on end-user information. As described earlier, the listings information is essentially a 100 percent sample of the end-user customer base and could be available for analysis at convenient periods co-incident with updates required for operational needs driven by customer listing submissions from ILECs and CLECs.

(4) I also recommend that consideration be given to tracking MOUs. Analysis of the competitive situation can be most proactive when done with leading indicators. Revenues and lines provide critical information but are really lagging indicators. For a multitude of reasons, customers may subscribe to a mix of ILEC, CLEC, Wireless and, perhaps even, VoIP services. Real-time usage of such services, however, is a leading indicator of the value placed on services by end-users. For example, even if local exchange lines are not currently being displaced by wireless, an increasing shift in MOUs, or usage, would strongly suggest a shift in value by end-users that should inevitably translate into line and revenue line shifts. Rather than just considering the competitive situation of local exchange services based on customer and line actuals, the Commission should have the option to consider if the value of local exchange services is shifting. This option, however, will require that providers track and make available usage information in a comparable format.

Q. Does this conclude your direct testimony?

A. Yes, it does.

EXHIBITS

AFF-1	CLECS in Listings Information
AFF-6	Switches & NPA-NXXs
AFF-9	HHI Estimates Based on Listings & Lines
AFF-11	HHI Estimates with Wireless
AFF-12	AT&T CallVantage SM Service
AFF-13	Qwest OneFlex
AFF-15	Wire Centers with Facilities CLECs
AFF-16	Wire Centers without Facilities CLECs
AFF-17	Wire Centers with Resale & UNE CLECs
AFF-18	CLECs by Type of Competition
AFF-19	All Wire Centers with All Types of CLECs
AFF-20	Wire Center Summary by UNE Zone & Qwest Line Decline '00-'03
AFF-21	Phoenix Main Wire Center

EXHIBIT AFF-6 Switches & NPA-NXXs

	DS Switches				Total DS Switches	Remote Switches				Total Remotes
	Phoenix 480	602	623	Tucson 520		Phoenix 480	602	623	Tucson 520	
Qwest					[redacted]					
AT&T					[redacted]					
Cox					[redacted]					
Eschelon					[redacted]					
MCI					[redacted]					
McLeodUSA					[redacted]					
SBC					[redacted]					
Sprint					[redacted]					
XO					[redacted]					
Xspedius					[redacted]					
Z Tel					[redacted]					
Totals					[redacted]					
Non-Qwest					[redacted]					

	NPA NXXs				Total NXXs	Ave NXXs per DS
	480	602	623	520		Switches & Remotes
Qwest	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AT&T	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cox	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Eschelon	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MCI	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McLeodUSA	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SBC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sprint	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
XO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Xspedius	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Z Tel	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Totals	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non-Qwest	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

EXHIBIT AFF-9 HHI Estimates Based on Listings & Lines

		HHI, based on listings	
		Business Mains	Residence Mains
Phoenix (480,602,623)		5,916	5,529
Tucson (520)		7,168	7,292

		Number of CLECs	
		Business Mains	Residence Mains
Phoenix (480,602,623)		30	35
Tucson (520)		23	26

		CLECs w ≥0.1% share listings	
		Business Mains	Residence Mains
Phoenix (480,602,623)		15	7
Tucson (520)		13	6

EXHIBIT AFF-11 HHI Estimates with Wireless

Statewide HHI Based on Qwest Listings, CLECs Listings and Wireless estimates

	Business	Residence
HHI	3,825	4,747

Key Assumptions

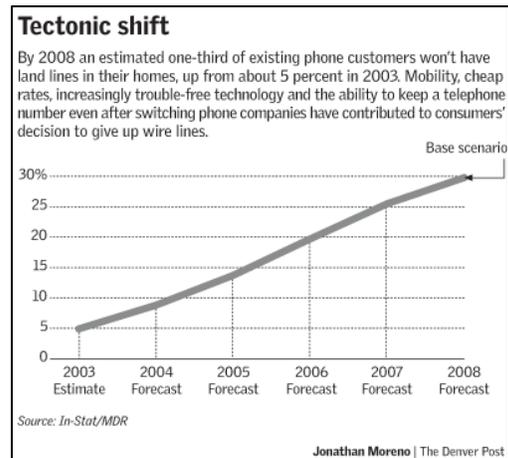
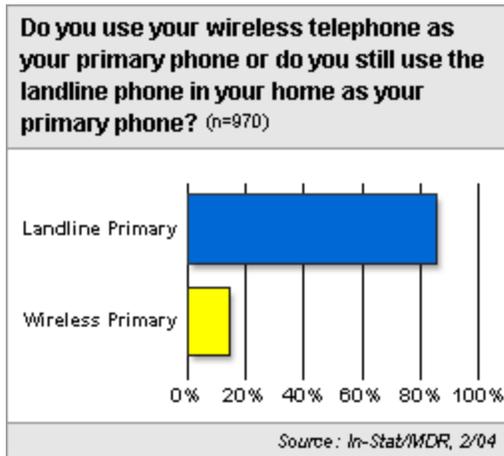
- * 2,843,061 Wireless Subs per FCC
- * 90% of Wireless Subs in Qwest areas
- * Displacement 80% Residence
- * Displacement 20% Business

Statewide HHI Based on Lines for Qwest, CLECs, & Wireless

HHI	3,624
-----	-------

Key Assumptions

- * 2,843,061 Wireless Subs per FCC
- * 30% additional line displacement
- * 852,918 total line displacement



From http://www.usa.att.com/callvantage/order/upcoming_markets.jsp

September 8, 2004

AT&T CallVantageSM Service numbers are available now in the following states.

Alabama	Nebraska
Arizona	New Hampshire
California	New Jersey
Colorado	New Mexico
Connecticut	New York
Delaware	North Carolina
Florida	Ohio
Georgia	Oklahoma
Illinois	Oregon
Indiana	Pennsylvania
Iowa	Rhode Island
Kansas	South Carolina
Kentucky	Tennessee
Louisiana	Texas
Maryland	Virginia
Massachusetts	Washington
Michigan	Washington DC
Minnesota	Wisconsin
Missouri	

EXHIBIT AFF-13 Qwest OneFlex

http://www.qwest.com/about/media/pressroom/1,1720,1550_archive,00.html?printVersion=1&xmlFilename=2004Jun231550&storyId=1550

June 23, 2004

Qwest OneFlex will be available to business customers in Boise, Idaho, Denver, Minneapolis and Phoenix in mid-July. By the end of 2004, customers in the following metropolitan areas will also have the benefits of Qwest OneFlex:

- Albuquerque, N.M.
- Baltimore
- Billings, Mont.
- Bismarck, N.D.
- Boston
- Casper, Wyo.
- Chicago
- Columbus, Ohio
- Des Moines, Iowa
- Los Angeles
- New York
- Omaha, Neb.
- Orange County, Calif.
- Philadelphia
- Portland, Ore.
- Salt Lake City
- San Diego
- San Francisco
- San Jose, Calif.
- Seattle
- Sioux Falls, S.D.
- Washington, D.C.

Qwest will continue to expand OneFlex to additional markets in 2005.

EXHIBIT AFF-15 Wire Centers with Facilities CLECs

Area	Wire Center	CLLI	# of Facilities CLECs
Tucson	TUCSON-MAIN	TCSNAZMA	[redacted]
Tucson	TUCSON-EAST	TCSNAZEA	[redacted]
Tucson	CATALINA	TCSNAZCA	[redacted]
Tucson	CORTARO	TCSNAZCO	[redacted]
Tucson	CRAYCROFT	TCSNAZCR	[redacted]
Tucson	FLOWING-WELLS	TCSNAZFW	[redacted]
Tucson	GREEN VALLEY	GNVYAZMA	[redacted]
Tucson	RINCON	TCSNAZRN	[redacted]
Tucson	TANQUE VERDE	TCSNAZTV	[redacted]
Tucson	TUCSON-NORTH	TCSNAZNO	[redacted]
Tucson	TUCSON-SOUTH	TCSNAZSO	[redacted]
Tucson	CORONADO	CRNDAZMA	[redacted]
Tucson	TUCSON SOUTHWEST	TCSNAZSW	[redacted]
Tucson	TUCSON SE	TCSNAZSE	[redacted]
Tucson	VAIL SOUTH	VAILAZSO	[redacted]
Phoenix	PHOENIX-MAIN	PHNXAZMA	[redacted]
Phoenix	PHOENIX-SOUTHEAST	PHNXAZSE	[redacted]
Phoenix	PHOENIX-NORTH	PHNXAZNO	[redacted]
Phoenix	SCOTTSDALE	SCDLAZMA	[redacted]
Phoenix	TEMPE-MAIN	TEMPAZMA	[redacted]
Phoenix	PHOENIX-CACTUS	PHNXAZCA	[redacted]
Phoenix	PHOENIX-GREENWAY	PHNXAZGR	[redacted]
Phoenix	PHOENIX-SUNNYSLOPE	PHNXAZSY	[redacted]
Phoenix	TEMPE-MCCLINTOCK	TEMPAZMC	[redacted]
Phoenix	BEARDSLEY	BRDSAZMA	[redacted]
Phoenix	GILBERT	MESAAZGI	[redacted]
Phoenix	GLENDALE -MAIN	GLDLAZMA	[redacted]
Phoenix	MESA-MAIN	MESAAZMA	[redacted]
Phoenix	PHOENIX-EAST	PHNXAZEA	[redacted]
Phoenix	PHOENIX-MID RIVERS	PHNXAZMR	[redacted]
Phoenix	PHOENIX-NORTHEAST	PHNXAZNE	[redacted]
Phoenix	PHOENIX-PEORIA	PHNXAZPR	[redacted]
Phoenix	SUPERSTITION-WEST	SPRSAZWE	[redacted]
Phoenix	THUNDERBIRD	SCDLAZTH	[redacted]
Phoenix	CHANDLER-MAIN	CHNDAZMA	[redacted]
Phoenix	CHANDLER-WEST	CHNDAZWE	[redacted]
Phoenix	DEER VALLEY NORTH	DRVYAZNO	[redacted]
Phoenix	PHOENIX-BETHANY WEST	PHNXAZBW	[redacted]

Area	Wire Center	CLLI	# of Facilities CLECs
Phoenix	PHOENIX-MARYVALE	PHNXAZMY	[redacted]
Phoenix	PHOENIX-NORTHWEST	PHNXAZNW	[redacted]
Phoenix	PHOENIX-SOUTH	PHNXAZSO	[redacted]
Phoenix	PHOENIX-WEST	PHNXAZWE	[redacted]
Phoenix	PINNACLE PEAK	PRVYAZPP	[redacted]
Phoenix	SHEA	SCDLAZSH	[redacted]
Phoenix	SUPERSTITION-MAIN	SPRSAZMA	[redacted]
Phoenix	CAVE CREEK	CVCKAZMA	[redacted]
Phoenix	CHANDLER-SOUTH	CHNDAZSO	[redacted]
Phoenix	COLDWATER	GDYRAZCW	[redacted]
Phoenix	LITCHFIELD PARK	LTPKAZMA	[redacted]
Phoenix	SUPERSTITION-EAST	SPRSAZEA	[redacted]
Phoenix	FORT MCDOWELL	FTMDAZMA	[redacted]
Phoenix	PHOENIX-PECOS	PHNXAZPP	[redacted]
Phoenix	HIGLEY	HGLYAZMA	[redacted]
Phoenix	PHOENIX-FOOTHILLS	PHNXAZ81	[redacted]
Phoenix	TOLLESON	TLSNAZMA	[redacted]
Phoenix	HGLY QUEEN CREEK	HGLYAZQC	[redacted]
Phoenix	NEW RIVER	NWRVAZMA	[redacted]
Phoenix	BUCKEYE	BCKYAZMA	[redacted]
Phoenix	PHOENIX-LAVEEN	PHNXAZLV	[redacted]
Phoenix	CASA GRANDE	CSGRAZMA	[redacted]
Phoenix	SAN MANUEL	SNMNAZMA	[redacted]
Other	SUNRISE	AGFIAZSR	[redacted]
Other	FLAGSTAFF EAST	FLGSAZEA	[redacted]
Other	FLAGSTAFF MAIN	FLGSAZMA	[redacted]
Other	SIERRA VISTA-MN	SRVSAZMA	[redacted]
Other	YUMA FORTUNA	YUMAAZFT	[redacted]
Other	YUMA-MAIN	YUMAAZMA	[redacted]
Other	YUMA-SOUTHEAST	YUMAAZSE	[redacted]
Other	CHINO VALLEY	CHVYAZMA	[redacted]
Other	NOGALES MIDWAY	NGLSAZMW	[redacted]
Other	PRESCOTT MAIN	PRSCAZMA	[redacted]
Other	SIERRA VISTA SO	SRVSAZSO	[redacted]
Other	COTTONWOOD-MAIN	CTWDAZMA	[redacted]
Other	SEDONA-MAIN	SEDNAZMA	[redacted]
Other	MUNDS PARK	MSPKAZMA	[redacted]
Other	PAYSON	PYSNAZMA	[redacted]
Other	SAFFORD	SFFRAZMA	[redacted]

EXHIBIT AFF-17 Wire Centers with Resale & UNE CLECs

Area	Wire Center	CLLI	UNE-L CLECs	UNE-P CLECs	Resale CLECs
Phoenix	Cactus (Phoenix)	PHNXAZCA	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Main	PHNXAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Northeast	PHNXAZNE	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix North	PHNXAZNO	[redacted]	[redacted]	[redacted]
Phoenix	McClintock (Tempe)	TEMPAZMC	[redacted]	[redacted]	[redacted]
Phoenix	Peoria (Phoenix)	PHNXAZPR	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix South	PHNXAZSO	[redacted]	[redacted]	[redacted]
Phoenix	Mesa	MESAAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Sunnyslope (Phoenix)	PHNXAZSY	[redacted]	[redacted]	[redacted]
Phoenix	Scottsdale Main	SCDLAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Thunderbird (Scottsdale)	SCDLAZTH	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Southeast	PHNXAZSE	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix West	PHNXAZWE	[redacted]	[redacted]	[redacted]
Phoenix	Chandler West	CHNDAZWE	[redacted]	[redacted]	[redacted]
Phoenix	Gilbert (Mesa)	MESAAZGI	[redacted]	[redacted]	[redacted]
Phoenix	Deer Valley	DRVYAZNO	[redacted]	[redacted]	[redacted]
Phoenix	Super West	SPRS AZWE	[redacted]	[redacted]	[redacted]
Phoenix	Chandler Main	CHNDAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Tempe	TEMPAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix East	PHNXAZE A	[redacted]	[redacted]	[redacted]
Phoenix	Greenway (Phoenix)	PHNXAZGR	[redacted]	[redacted]	[redacted]
Phoenix	Glendale	GLDLAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Casa Grande	CSGRAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Maryvale (Phoenix)	PHNXAZMY	[redacted]	[redacted]	[redacted]
Phoenix	Beardsley	BRDSAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Super Main	SPRS AZMA	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Northwest	PHNXAZNW	[redacted]	[redacted]	[redacted]

Area	Wire Center	CLLI	UNE-L CLECs	UNE-P CLECs	Resale CLECs
Phoenix	Shea (Scottsdale)	SCDLAZSH	[redacted]	[redacted]	[redacted]
Phoenix	Mid Rivers (Phoenix)	PHNXAZMR	[redacted]	[redacted]	[redacted]
Phoenix	Foothills	PHNXAZ81	[redacted]	[redacted]	[redacted]
Phoenix	Bethany West (Phoenix)	PHNXAZBW	[redacted]	[redacted]	[redacted]
Phoenix	Pecos (Phoenix)	PHNXAZPP	[redacted]	[redacted]	[redacted]
Phoenix	Queen Creek (Higley)	HGLYAZQC	[redacted]	[redacted]	[redacted]
Phoenix	Super East	SPRS AZEA	[redacted]	[redacted]	[redacted]
Phoenix	Coldwater (Goodyear)	GDYRAZCW	[redacted]	[redacted]	[redacted]
Phoenix	Pinnacle Peak	PRVYAZPP	[redacted]	[redacted]	[redacted]
Phoenix	Chandler South	CHNDAZSO	[redacted]	[redacted]	[redacted]
Phoenix	Ft. McDowell	FTMDAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Litchfield Park	LTPKAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Cave Creek	CVCKAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Higley	HGLYAZMA	[redacted]	[redacted]	[redacted]
Phoenix	New River	NWRVAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Tolleson	TLSNAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Buckeye	BCKYAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Laveen (Phoenix)	PHNXAZLV	[redacted]	[redacted]	[redacted]

Phoenix	Eloy	ELOYAZ01	[redacted]	[redacted]	[redacted]
Phoenix	Wickenburg	WCBGAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Coolidge	CLDGAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Maricopa	MRCPAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Gila Bend	GLBNAZMA	[redacted]	[redacted]	[redacted]
Phoenix	White Tanks	WHTKAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Circle City	CRCYAZNM	[redacted]	[redacted]	[redacted]
Phoenix	Florence	FLRNAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Rio Verde	FTMDAZNO	[redacted]	[redacted]	[redacted]
Phoenix	Oracle	ORCLAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Wintersburg	WNBGAZ01	[redacted]	[redacted]	[redacted]
Phoenix	Kearny	KRNYAZMA	[redacted]	[redacted]	[redacted]

Area	Wire Center	CLLI	UNE-L CLECs	UNE-P CLECs	Resale CLECs
Phoenix	Mammoth	MMTHAZMA	[redacted]	[redacted]	[redacted]
Phoenix	San Manuel	SNMNAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Superior	SPRRAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Stanfield	STFDAZMA	[redacted]	[redacted]	[redacted]
Phoenix	Dudleyville	DDVLAZNM	[redacted]	[redacted]	[redacted]
Phoenix	Whitlow	WHTLAZMA	[redacted]	[redacted]	[redacted]
Tucson	Tucson Main	TCSNAZMA	[redacted]	[redacted]	[redacted]
Tucson	Craycroft (Tucson)	TCSNAZCR	[redacted]	[redacted]	[redacted]
Tucson	Flowing Wells (Tucson)	TCSNAZFW	[redacted]	[redacted]	[redacted]
Tucson	Rincon (Tucson)	TCSNAZRN	[redacted]	[redacted]	[redacted]
Tucson	Tucson South	TCSNAZSO	[redacted]	[redacted]	[redacted]
Tucson	Tucson East	TCSNAZEA	[redacted]	[redacted]	[redacted]
Tucson	Tucson North	TCSNAZNO	[redacted]	[redacted]	[redacted]
Tucson	Catalina (Tucson)	TCSNAZCA	[redacted]	[redacted]	[redacted]
Tucson	Cortaro (Tucson)	TCSNAZCO	[redacted]	[redacted]	[redacted]
Tucson	Tucson Southeast	TCSNAZSE	[redacted]	[redacted]	[redacted]
Tucson	Coronado	CRNDAZMA	[redacted]	[redacted]	[redacted]
Tucson	Tanque Verde (Tucson)	TCSNAZTV	[redacted]	[redacted]	[redacted]
Tucson	Tucson Southwest	TCSNAZSW	[redacted]	[redacted]	[redacted]
Tucson	Green Valley	GNVYAZMA	[redacted]	[redacted]	[redacted]
Tucson	Marana	MARNAZMA	[redacted]	[redacted]	[redacted]
Tucson	Tucson West	TCSNAZWE	[redacted]	[redacted]	[redacted]
Tucson	Vail South	VAILAZSO	[redacted]	[redacted]	[redacted]
Tucson	Vail North	VAILAZNO	[redacted]	[redacted]	[redacted]
Tucson	Mt. Lemmon (Tucson)	TCSNAZML	[redacted]	[redacted]	

EXHIBIT AFF-18 CLECs by Type of Competition

CLEC Name	Facilities	Type of Competition			
		UNE-L	UNE-P	Resale	All
1-800-RECONEX Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ACN Communications Services Inc	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Allegiance Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Arizona Dial Tone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AT&T	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Brooks Fiber Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Budget Phone Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Buy-Tel Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
CapRock Telecommunications Corp.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Comm South Companies Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cox Telcom L.L.C.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cypress Communications	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DPI Teleconnect L.L.C.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electric Lightwave, Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ernest Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Eschelon Telecom Inc	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Excel Telecommunications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Global Crossing Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Granite Telecommunications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Intermedia Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
KMC Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level 3 Communications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MCI	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McLeodUSA	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mountain Telecommunications	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
North County Communications	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
NOS Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pac-West Telecomm Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Preferred Carrier Services Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Quality Telephone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
QuantumShift Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Regal Telephone Company	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SBC Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ServiSense.Com Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sprint Communications Company L.P.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tel West Communications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Time Warner Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VarTec Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Verizon Avenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Winstar Communications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
XO Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Xspedius Communications	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Z-Tel Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

EXHIBIT AFF-19 All Wire Centers with All Types of CLECs

Area	Wire Center	CLLI Code	Number of CLECs			
			UNE-L	UNE-P	Resale	Facilities
Phoenix	Buckeye	BCKYAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Beardsley	BRDSAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Chandler Main	CHNDAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Chandler South	CHNDAZSODS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Chandler West	CHNDAZWEDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Coolidge	CLDGAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Circle City	CRCYAZNMRS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Casa Grande	CSGRAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Cave Creek	CVCKAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Dudleyville	DDVLAZNMRS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Deer Valley	DRVYAZNODS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Eloy	ELOYAZ01RS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Florence	FLRNAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Ft. McDowell	FTMDAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Rio Verde	FTMDAZNORS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Coldwater (Goodyear)	GDYRAZCWDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Gila Bend	GLBNAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Glendale	GLDLAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Higley	HGLYAZMADS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Queen Creek (Higley)	HGLYAZQCDS2	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Kearny	KRNYAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Litchfield Park	LTPKAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Gilbert (Mesa)	MESAAZGIDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Mesa	MESAAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Mammoth	MMTHAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Maricopa	MRCPAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	New River	NWRVAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Oracle	ORCLAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]

Area	Wire Center	CLLI Code	Number of CLECs			
			UNE-L	UNE-P	Resale	Facilities
Phoenix	Foothills	PHNXAZ81DS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Bethany West (Phoenix)	PHNXAZBWDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Cactus (Phoenix)	PHNXAZCADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix East	PHNXAZEADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Greenway (Phoenix)	PHNXAZGRDS0	[redacted]	[redacted]	[redacted]	[redacted]

Phoenix	Laveen (Phoenix)	PHNXAZLVDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Main	PHNXAZMADS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Mid Rivers (Phoenix)	PHNXAZMRDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Maryvale (Phoenix)	PHNXAZMYDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Northeast	PHNXAZNEDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix North	PHNXAZNODS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Northwest	PHNXAZNWDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Pecos (Phoenix)	PHNXAZPPDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Peoria (Phoenix)	PHNXAZPRDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix Southeast	PHNXAZSEDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix South	PHNXAZSODS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Sunnyslope (Phoenix)	PHNXAZSYDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Phoenix West	PHNXAZWEDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Pinnacle Peak	PRVYAZPPDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Scottsdale Main	SCDLAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Shea (Scottsdale)	SCDLAZSHDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Thunderbird (Scottsdale)	SCDLAZTHDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	San Manuel	SNMNAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Superior	SPRRAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Super East	SPRSAZEADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Super Main	SPRSAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Super West	SPRSAZWEDS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Stanfield	STFDAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Tempe	TEMPAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	McClintock (Tempe)	TEMPAZMCDS0	[redacted]	[redacted]	[redacted]	[redacted]

Area	Wire Center	CLLI Code	Number of CLECs			
			UNE-L	UNE-P	Resale	Facilities
Phoenix	Tolleson	TLSNAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Wickenburg	WCBGAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	White Tanks	WHTKAZMARS2	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Whitlow	WHTLAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix	Wintersburg	WNBGAZ01RS1	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Coronado	CRNDAZMADS1	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Green Valley	GNVYAZMADS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Marana	MARNAZMARS1	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Catalina (Tucson)	TCSNAZCADS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Cortaro (Tucson)	TCSNAZCODS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Craycroft (Tucson)	TCSNAZCRDS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tucson East	TCSNAZEADS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Flowing Wells (Tucson)	TCSNAZFWDS0	[redacted]	[redacted]	[redacted]	[redacted]

Tucson	Tucson Main	TCSNAZMADS1	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Mt. Lemmon (Tucson)	TCSNAZMLRS2	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tucson North	TCSNAZNODS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Rincon (Tucson)	TCSNAZRND0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tucson Southeast	TCSNAZSEDS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tucson South	TCSNAZSODS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tucson Southwest	TCSNAZSWDS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tanque Verde (Tucson)	TCSNAZTVDS0	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Tucson West	TCSNAZWERS1	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Vail North	VAILAZNORS1	[redacted]	[redacted]	[redacted]	[redacted]
Tucson	Vail South	VAILAZSODS0	[redacted]	[redacted]	[redacted]	[redacted]

EXHIBIT AFF-20 Wire Center Summary by UNE Zone & Qwest Line Decline '00-'03

All figures based on line information from DLT-17 or RUCO DR2

Requested Competitive Zone Wire Centers	WC Area	UNE Zone	Q Total Lines 12/03	Q Line Change 12/00- 12/03 (DLT-17)		Q Market Share of Lines (RUCO) Bus & Res	Ave UNE & Resale CLECs	# of Bypass CLECs
				Bus	Res			
Phoenix North	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McClintock (Tempe)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix Northeast	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tempe	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pecos (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mesa	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cactus (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix Northwest	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix West	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Glendale	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix Main	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sunnyslope (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Scottsdale Main	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix East	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix South	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Greenway (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Thunderbird (Scottsdale)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chandler West	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Maryvale (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mid Rivers (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Phoenix Southeast	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Foothills	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Super West	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Shea (Scottsdale)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Peoria (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gilbert (Mesa)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chandler Main	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Deer Valley	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Bethany West (Phoenix)	Phoenix	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ft. McDowell	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Super Main	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Casa Grande	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Super East	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coldwater (Goodyear)	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cave Creek	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chandler South	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Beardsley	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pinnacle Peak	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Litchfield Park	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tolleson	Phoenix	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
San Manuel	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wintersburg	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Circle City	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Whitlow	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Wickenburg	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mammoth	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
New River	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Superior	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Eloy	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Kearny	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Oracle	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gila Bend	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coolidge	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Florence	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Stanfield	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dudleyville	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Laveen (Phoenix)	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Buckeye	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
White Tanks	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Higley	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Maricopa	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rio Verde	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Queen Creek (Higley)	Phoenix	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson Main	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson East	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rincon (Tucson)	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Craycroft (Tucson)	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson South	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Catalina (Tucson)	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson North	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Flowing Wells (Tucson)	Tucson	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tanque Verde (Tucson)	Tucson	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson West	Tucson	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Green Valley	Tucson	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cortaro (Tucson)	Tucson	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coronado	Tucson	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson Southeast	Tucson	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mt. Lemmon (Tucson)	Tucson	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tucson Southwest	Tucson	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Marana	Tucson	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Vail North	Tucson	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Vail South	Tucson	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

EXHIBIT AFF-21 Phoenix Main Wire Center

Estimated
CLEC -
Owned
Lines (Dec
2003)

CLEC_NAME		UNE-L	UNE-P	Resale	Totals
ACN Communications Services Inc	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Alliance Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Arizona Dial Tone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AT&T	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AT&T Communications, Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AT&T Local Service (fka TCG)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Budget Phone Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
CapRock Telecommunications Corp.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Comm South Companies Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cox Telcom L.L.C.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DPI Teleconnect L.L.C.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electric Lightwave, Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ernest Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Eschelon Telecom Inc	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Excel Telecommunications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Global Crossing Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Global Crossing Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Granite Telecommunications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Intermedia Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Level 3 Communications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MCI	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MCImetro Access Transmission Services LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McLeod	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McLeodUSA	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
McLeodUSA Telecommunications Services Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mountain Telecommunications	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
North County Communications	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
NOS Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pac-West Telecomm Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Preferred Carrier Services Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Quality Telephone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
QuantumShift Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Regal Telephone Company	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SBC Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Estimated
CLEC -
Owned
Lines (Dec
2003)

CLEC_NAME		UNE-L	UNE-P	Resale	Totals
Sprint Communications Company LP.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tel West Communications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Time Warner Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VarTec Telecom Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Winstar Communications LLC	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
XO Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Z-Tel Communications Inc.	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Qwest	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]