

**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION  
COMMISSION**

**IN THE MATTER OF THE REVIEW OF )  
UNBUNDLED LOOP AND SWITCHING )  
RATES; THE DEAVERAGED ZONE )  
STRUCTURE; AND UNBUNDLED NETWORK )  
ELEMENTS, TRANSPORT, AND )  
TERMINATION )**

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**DOCKET NO. UT-023003**

**DIRECT TESTIMONY**

**OF**

**ELMER CRAIG MORRIS**

**ON BEHALF OF**

**QWEST CORPORATION**

**JUNE 26, 2003**

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**I. IDENTIFICATION OF WITNESS**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION.**

A. My name is Elmer Craig Morris. I am employed by Qwest as a Senior Staff Advocate. My business address is 301 West 65<sup>th</sup> Street, Richfield, Minnesota, 55423.

**Q. PLEASE DESCRIBE YOUR PROFESSIONAL QUALIFICATIONS.**

A. I have been employed by Qwest Corporation (“Qwest”), formerly Northwestern Bell Telephone Company and U S WEST Communications, for 29 years. During this time, I have worked in the Network, Carrier, Finance and IT organizations, as well as the Qwest Retail and Wholesale product and marketing organizations. Most recently I was responsible for Qwest OSS testing for our 271 application and development of CLEC methods, procedures or system enhancements to ensure 271 compliance.

My current work assignment is to provide testimony and information concerning Qwest products in these and similar proceedings. I have a Bachelor of Arts degree in Economics and Public Administration from the University of St. Thomas in Minneapolis, Minnesota, and a Master of Science degree in Management from Stritch University, Milwaukee, Wisconsin.

**Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION?**

1 A. No. However, I have testified before the State Commissions in Arizona, Colorado,  
2 Iowa, Idaho, and Minnesota on matters concerning pricing, product performance and  
3 complaint litigation.

4 **II. PURPOSE OF TESTIMONY**

5 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

6 A. The purpose of my testimony is to describe certain products and services that Qwest  
7 makes available to Competitive Local Exchange Carriers (CLECs). I will describe the  
8 following products and services, along with their associated recurring rates and  
9 charges: Unbundled Local Tandem Switching; Unbundled Local Switching; Shared  
10 Transport; Unbundled Network Element (“UNE”) Combinations, including UNE-P.  
11 Mr. William Easton addresses the EEL product in his testimony. Finally, I provide  
12 information about the concept of Deaveraged Switching. Prices associated with each  
13 product and service element addressed in my testimony are included in Exhibit TKM-  
14 2 that is attached to the testimony of Ms. Teresa K. Million. The price that Qwest is  
15 proposing is the TELRIC cost for each of the elements.

16 **III. UNBUNDLED NETWORK ELEMENTS**

17 **Q. WHAT TYPES OF UNBUNDLED LOCAL SWITCHING ARE AVAILABLE?**

18 A. Qwest provides unbundled local tandem switching and unbundled local switching to  
19 CLECs. Qwest provides these services to CLECs using the same elements and  
20 facilities it uses to provide service to Qwest’s own end users.

1           **1) Unbundled Local Tandem Switching**

2           **Q. PLEASE DESCRIBE UNBUNDLED LOCAL TANDEM SWITCHING.**

3           A. The unbundled local tandem switching network element includes the facilities  
4           connecting the trunk distribution frames to the tandem switch, including those  
5           facilities that establish a temporary transmission path between two other local network  
6           switches, and all functions of the local tandem switch itself. The unbundled local  
7           tandem switching element also includes the functions that are centralized in local  
8           tandem switches rather than end office switches, such as call recording and signaling  
9           conversion features.

10          **Q. WHAT RATE ELEMENTS AND CHARGES APPLY FOR UNBUNDLED**  
11          **LOCAL TANDEM SWITCHING?**

12          A. Exhibit TKM-2 to Ms. Teresa K. Million's testimony at Section 9.10.4 identifies the  
13          Per Minute of Use (MOU) charge applied to originating minutes to recover the traffic  
14          sensitive costs associated with the local tandem switch.

15          **2) Unbundled Local Switching**

16          **Q. PLEASE DESCRIBE UNBUNDLED LOCAL SWITCHING.**

17          A. Unbundled local switching includes access to line-side and trunk-side switch facilities,  
18          plus access to the features, functions and capabilities of the switch. The features,  
19          functions, and capabilities of the switch include the basic switching function, including  
20          the same basic capabilities that are available to Qwest's end-user customers.

1 **Q. PLEASE DESCRIBE THE UNBUNDLED ANALOG LINE-SIDE LOCAL**  
2 **SWITCH PORT.**

3 A. An Analog Line-Side Port is an interface on the line-side of the end office switch that  
4 provides access to the basic functionality of an end office switch. This service is a 2-  
5 wire Plain Old Telephone Service (POTS) line side switch connection, the same kind  
6 of connection that supports line side analog PBX trunks. A separate Interconnection  
7 Tie Pair (ITP) must be ordered for each Analog Line-Side Port to provide connection  
8 from the Main Distribution Frame (MDF) to the Interconnection Distribution Frame  
9 (ICDF) demarcation point on the collocation frame. The Analog Line-Side Port also  
10 includes most of the vertical features provided by the switch (e.g., OS/DA, Call  
11 Blocking, etc.). Qwest also offers a Premium Analog Line-Side Port. It includes all of  
12 the switch features that are provided with the Analog Line-Side Port, plus additional  
13 Call Management System (CMS) and conference calling features.

14 **Q. WHAT ARE THE RATE ELEMENTS AND CHARGES FOR THE**  
15 **UNBUNDLED ANALOG LINE -SIDE LOCAL SWITCH PORT AND**  
16 **PREMIUM PORT-ADDITIONAL CHARGE?**

17 A. Section 9.11.1 of Exhibit TKM-2, attached to Ms. Teresa K. Million's testimony,  
18 identifies the recurring charge for the unbundled Analog Line-Side Local Switch Port.  
19 The Premium Port-Additional Charge and its elements is included at Section 9.11.6.2.

20 **Q. PLEASE DESCRIBE UNBUNDLED DIGITAL LINE-SIDE LOCAL SWITCH**  
21 **PORTS (SUPPORTING ISDN BRI).**

1 A. The unbundled Digital Line-Side Local Switch Port, used for Integrated Services  
2 Digital Network - Basic Rate Interface (ISDN BRI), is provided via digital architecture  
3 that provides integrated voice and data capability. Similar to the Analog Line-Side  
4 Switch Port, the Digital Line-Side Switch Port includes access to basic vertical switch  
5 features.

6 **Q. WHAT ARE THE RATE ELEMENTS AND CHARGES FOR UNBUNDLED**  
7 **DIGITAL LINE-SIDE SWITCH PORTS?**

8 A. Section 9.11.2 of Exhibit TKM-2 attached to Ms. Teresa K. Million's testimony  
9 identifies the recurring charges for the unbundled Digital Line-Side Switch Port. The  
10 same Premium Port-Additional Charge would apply if the CLEC wants  
11 CMS/conference calling features along with a Digital Line-Side Port.

12 **Q. WHAT TYPES OF UNBUNDLED TRUNK-SIDE LOCAL SWITCH PORTS**  
13 **DOES QWEST PROVIDE?**

14 A. Qwest provides the following types of unbundled trunk-side local switch ports:

15 **Unbundled Digital DS1 Local Message:** Trunk-Side Local Switch Port is a trunk-  
16 side switch port that is extended to the trunk main distributing frame and is connected  
17 to the demarcation point through an ITP. Each DS1 trunk port includes a subset of 24  
18 DS0 channels capable of supporting local message type traffic.

19 **Unbundled Digital DS1 PRI ISDN:** The Unbundled Digital DS1 PRI ISDN Trunk-  
20 Side Local Switch Port (supporting DID/DOD/PBX) is a digital DS1 trunk-side switch

1 port terminated at a DS1 or equivalent. Each DS1 trunk port includes a subset of 24  
2 DS0 channels capable of supporting DID/DOD/PBX type traffic.

3 **DID / PBX Trunk Port, per DS0:** DID/PBX Trunk Port is a DS1/Digital trunk- side  
4 end-office switch port termination that provides the ability to connect a digital PBX  
5 user with the trunk side of the Qwest CO and permits incoming calls from the  
6 exchange network to reach a specific PBX station directly without attendant  
7 assistance. All trunks are designed as 4-wire facilities.

8 **Unbundled Analog DS0:** The Unbundled Analog DSO Trunk-Side Local Switch Port  
9 can be configured as Direct Inward Dial (DID), Direct Outward Dial (DOD), and two-  
10 way and is available on an individual case basis (ICB).

11 **Q. WHAT ARE THE RATE ELEMENTS AND CHARGES FOR UNBUNDLED**  
12 **TRUNK-SIDE LOCAL SWITCH PORTS?**

13 A. Sections 9.11.3 and 9.11.4 of Exhibit TKM-2 specify monthly recurring charges that  
14 apply for trunk-side switch ports.

15 **Q. PLEASE DESCRIBE THE USAGE CHARGE FOR UNBUNDLED LOCAL**  
16 **SWITCHING.**

17 A. Section 9.11.5 of Ms. Teresa K. Millions's Exhibit TKM-2 specifies the MOU charge  
18 for originating calls on unbundled local switch ports. The usage-based MOU charge  
19 and the flat-rated port charge are the primary means by which the costs of local  
20 switching investment are recovered in UNE prices.



1           **3) Shared Transport**

2           **Q. PLEASE DESCRIBE SHARED TRANSPORT SERVICE.**

3           A. Shared transport service is a UNE provided to CLECs that allows them to use Qwest's  
4           interoffice transmission facilities that are shared by more than one carrier, including  
5           Qwest, between Qwest end offices and tandem switches within a local calling area.  
6           Shared transport can be between Qwest end office switches, between Qwest end office  
7           switches and Qwest tandem switches, and between Qwest tandem switches. Shared  
8           transport service is currently provided in two situations: (1) when a CLEC purchases  
9           unbundled local switching; or (2) when a CLEC purchases a combination of UNEs  
10          that includes Qwest unbundled local switching, such as a UNE-P combination service.  
11          Shared transport is automatically provided when a CLEC orders unbundled switching  
12          or UNE-P, unless the CLEC requests a different arrangement (i.e., customized routing  
13          to another transport service). Shared transport used by CLECs accesses and utilizes  
14          Qwest's routing tables that reside in Qwest's switches in the same manner that the  
15          routing tables are employed for Qwest retail services. The routing tables direct both  
16          Qwest and CLEC traffic over Qwest's shared transport service.

17          **Q. WHY IS SHARED INTEROFFICE TRANSPORT ONLY AVAILABLE TO**  
18          **CLECS THAT PURCHASE UNBUNDLED LOCAL SWITCHING?**

19          A. Qwest provides shared interoffice transport service in conjunction with services  
20          provided to CLECs that use Qwest's switches; unbundled local switching and UNE-P  
21          combination services are UNEs for which Qwest provides the switching for CLECs. It

1 is not technically feasible for Qwest to provide its shared interoffice transport service,  
2 which, by definition, is transport that carries traffic between Qwest switches, to a  
3 CLEC that does not use Qwest's switches.

4 **4) Unbundled Network Element (UNE) Combinations**

5 **Q. PLEASE DEFINE THE UNE COMBINATIONS YOU ARE DISCUSSING IN**  
6 **THIS SECTION OF YOUR TESTIMONY.**

7 A. "UNE combinations" are UNEs provided to a CLEC in a combined, or bundled state,  
8 as requested by the CLEC. The two general types of UNE combinations provided by  
9 Qwest are UNE-Platform (UNE-P) and Enhanced Extended Loops (EEL). I discuss  
10 UNE-P combinations and Mr. William Easton discusses EEL in his testimony. If a  
11 CLEC desires UNE combinations beyond those defined below, the CLEC may request  
12 such combinations through the Special Request Process (SRP).

13 **Q. PLEASE DESCRIBE UNE-P COMBINATION SERVICE, AND IDENTIFY**  
14 **THE UNE-P COMBINATIONS THAT ARE AVAILABLE FROM QWEST.**

15 A. UNE-P combination service is a combination of UNEs that includes, at minimum, an  
16 unbundled loop, an unbundled switch port, unbundled switching, and shared transport.  
17 Qwest provides UNE-P combinations as finished services, as ordered by a CLEC, to  
18 allow the CLEC to serve its end user customer. Even though the basic network  
19 facilities to provide local service are provided by Qwest in this situation, the CLEC is  
20 the "owner" of the UNE-P service and is the end users' local service provider. The  
21 CLEC and not Qwest has the right to bill interexchange carriers for switched access

1 associated with its UNE-P combinations. Each UNE-P combination identified below  
2 works like the comparable Qwest retail service. The following descriptions identify  
3 the UNE-P combinations and their sub-elements that Qwest provides to CLECs.

4 **UNE-P POTS:** Qwest provides UNE-P POTS combinations to residents and  
5 businesses as a finished service to end-users on behalf of CLECS. UNE-P POTS  
6 provides service similar in functionality as Qwest's retail residential and business  
7 services, such as Flat Rate Residential/Flat Rate Business (1FR/1FB) services and  
8 Measured Rate Residential/One Measured Rate Business (1MR/1MB) services. UNE-  
9 P POTS is the combination of the following UNEs:

10 2-Wire Analog (Voice Grade) Loop

11 Analog Line Side Port (including Vertical Switch Features)

12 Local Switch Usage (MOU)

13 Shared Transport Originating (MOU)

14 **UNE-P ISDN BASIC:** UNE-P ISDN BRI is an all-digital communications technology  
15 that provides services and capabilities not available through standard analog  
16 technology. The ISDN digital architecture provides a high-speed, integrated transfer  
17 of voice, data and video over the same line, using the Public Switched Network (PSN).  
18 UNE – P BRI with Premium features is only available when ordered in conjunction  
19 with Centrex and is SRP. UNE-P ISDN BRI is comprised of the combination of the  
20 following UNEs:

21 ISDN BRI Capable Loop

1 Local Switch Usage (MOU)  
2 Digital Line Side Port (Supporting ISDN BRI)  
3 Shared Transport Originating (MOU)

4 **UNE-P ISDN PRIMARY RATE:** Qwest provides the UNE-P ISDN PRI  
5 combination as a finished service to ISDN compatible Private Branch Exchange  
6 (PBX) end-users on behalf CLECs, providing similar finished service functionality as  
7 is provided with Qwest's retail service offering. UNE-P ISDN PRI is a 4-wire full  
8 duplex transmission path between ISDN-capable Customer Provided Equipment  
9 (CPE) and an ISDN-equipped central office (CO). The basic service consists of 23 B  
10 Channels and a D Channel with a transmission rate of 1.544 Megabits per second  
11 (Mbps). Each B Channel carries user information and the D Channel is used for  
12 signaling. The channel configuration is commonly referred to as 23B+D. UNE-P  
13 ISDN PRI is comprised of the combination of the following UNEs:

14 **Facility**  
15 DS1 or DS3 Capable Loop  
16 ISDN PRI Trunk Port  
17  
18 **Trunks**  
19 ("Trunk connections")  
20 One DS1 Local Message Trunk Port  
21 Shared Transport Originating (MOU)  
22 Local Switch Usage (MOU)





1       **UNE-P PAL:** UNE-P Public Access Lines (PAL) service is a combination of UNEs  
2       that provides finished service to CLECs that furnish service to Payphone Service  
3       Providers (PSPs). PSPs in turn establish connections of intelligent instrument-  
4       controlled hardware to the UNE-P PAL service for public use. UNE-P PAL offers the  
5       equivalent functionality of Qwest's retail service offering of two-way, incoming and  
6       outgoing, Basic PAL. Basic PAL includes all functions associated with the Qwest  
7       network such as access to operator, sent paid (1+) service, N11 and 800/888 services.  
8       Coin collection and/or return of coins are controlled by the PSPs pay telephones.  
9       UNE-P PAL is the finished service combination of the following UNEs:

- 10                                   2-Wire Analog (Voice Grade) Loop
- 11                                   Analog Line Side Port
- 12                                   Shared Transport Originating (MOU)
- 13                                   Local Switch Usage (MOU)

14       **UNE-P Centrex:** UNE-P Centrex provides exchange service between an end-user's  
15       premises and the Qwest CO. UNE-P Centrex products available are UNE-P Centrex  
16       21, UNE-P Centrex Plus, and UNE-P Centron® which may be ordered as a new  
17       combination or converted from existing Qwest resale or retail services. UNE-P  
18       Centrex is comprised of the combination of the following UNEs:

1 **UNE-P Centrex 21:**<sup>1</sup>  
2 2-Wire Analog (Voice Grade) Loop  
3 Analog Line Side Port  
4 Shared Transport Originating (MOU)  
5 Local Switch Usage (MOU)  
6 Common Block

7  
8 **UNE-P Centrex Plus and UNE-P Centron:**  
9 2-Wire Analog (Voice Grade) Loop  
10 Analog Line Side Port  
11 Shared Transport Originating (MOU)  
12 Local Switch Usage (MOU)  
13 Common Block

14 **Q. WHAT ARE THE RATE ELEMENTS AND RECURRING CHARGES FOR**  
15 **UNE-P COMBINATIONS?**

16 A. Monthly recurring charges for the various UNE-P combinations are the sum of the  
17 UNEs that make up the particular UNE-P combination requested. All UNE-P  
18 combinations include, at a minimum, an unbundled loop monthly recurring charge  
19 from Section 9.2, an unbundled switch port monthly recurring charge and usage  
20 charges from Section 9.11, unbundled shared transport usage charges from Section  
21 9.8, and unbundled local switching usage charges from Section 9.11.5 of Exhibit

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<sup>1</sup> UNE-P Centrex 21 is a business service intended for end-users with 2 to 50 station lines per location. It consists of standard features that are available to all station lines in the shared customer group. UNE-P Centrex 21 can be integrated into current lines, utilizing 21 different standard and optional features, maximizing productivity.



1 TKM-2. Section 9.23.7 of TKM-2 includes additional recurring charges that may  
2 apply (e.g., for multiplexing).

3 **IV. DEAVERAGED SWITCHING**

4 **Q. WHAT IS GEOGRAPHIC DEAVERAGING?**

5 A. Geographic Deaveraging determines costs for network elements based on geographic-  
6 specific cost characteristics. Geographic deaveraging of loop costs has been in place  
7 in Washington since December 2000, in accordance with the Commission's orders in  
8 Docket No. UT-960369, et al. Costs may be deaveraged at the wire center level, based  
9 on differences in costs associated with a particular UNE in that wire center versus in  
10 another wire center. These differences in costs are typically associated with customer  
11 density in a particular wire center. Geographic deaveraging is the methodology that  
12 this Commission has endorsed for pricing of unbundled loops costs. In the past, other  
13 parties have proposed that deaveraged loop costs, within a wire center, be determined  
14 by the using distances from the central office to the end-user's locations. However,  
15 that methodology has not been adopted to date.

16 **Q. DOES QWEST GEOGRAPHICALLY DEAVERAGE ITS SWITCH PRICING?**

17 A. No. In contrast to loop costs, Qwest has generally determined that switching costs do  
18 not exhibit different cost characteristics based on geographic area. Unlike loop  
19 facilities, determinations about where switches are placed, the type of equipment  
20 deployed, and the distance between a switching equipment location and an end user's  
21 location do not create cost differences. A particular type of equipment will cost Qwest

1 the same no matter which geographic area the switch is located in. Qwest opposes the  
2 geographic deaveraging of unbundled switching prices because there is no correlation  
3 between costs and the geographic location of the switch.

4 **Q. WHAT THEN DETERMINES THE PORT CHARGE AND MINUTES OF USE**  
5 **PRICING CHARGED BY QWEST FOR SWITCHING?**

6 A. Qwest proposed switching rates are based on the number of lines and features  
7 associated within a particular port. Charges are not based on, nor should they be based  
8 on, the geographic location or the distance between an end user's address and the  
9 Qwest switching equipment location. Nor is there a basis to deaverage switching  
10 prices based on customer density within a particular wire center. The testimony of  
11 Ms. Theresa K. Million and Exhibit TKM-2, more fully explains the proposed pricing,  
12 methodology and elements used to establish the proposed switching rates in  
13 Washington.

14 **V. CONCLUSION**

15 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

16 A. Yes, it does.