

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Review of:
Unbundled Loop and Switching Rates; the
Deaveraged Zone Rate Structure; and
Unbundled Network Elements, Transport, and
Termination

Docket No. UT – 023003

DIRECT TESTIMONY
OF
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ON BEHALF OF
QWEST CORPORATION

JUNE 26, 2003

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1 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THIS**
2 **COMMISSION?**

3 A. Yes. I previously testified in the following dockets: UT-940641; UT-950200; UT-
4 951425; UT-960347; and UT-003013, Part D.

5 **II. PURPOSE OF DIRECT TESTIMONY**

6 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

7 A. In this docket, the Commission is re-examining the rates for several interconnection
8 services and unbundled network elements (UNEs). It is critical in that process for the
9 Commission to have a clear understanding of the products and services at issue and the
10 monthly recurring rates that apply to them. In this testimony, I describe several specific
11 products and services, along with the applicable recurring charges that Qwest is
12 addressing in this proceeding. Another Qwest witness, Craig Morris, will describe the
13 other Qwest services at issue in the proceeding. The prices associated with each product
14 and service addressed in my testimony are included in Exhibit TKM-2 that is attached to
15 the testimony of Ms. Terri Million. Specifically, I describe the following products and
16 services and their associated rate elements:

- 17 • Certain Local Interconnection Service elements including:
- 18 ○ Multiplexing
 - 19 ○ Local Traffic/Reciprocal Compensation
 - 20 ○ End Office Call Termination
 - 21 ○ Tandem Switching
 - 22 ○ Tandem Transmission
 - 23 ○ Category 11 Records
- 24 • Certain UNEs including:
- 25 ○ Interconnection Tie Pairs

- 1 ○ Unbundled Loops
- 2 ○ Sub-loops
- 3 ○ Unbundled Dedicated Interoffice Transport
- 4 ○ Unbundled Dark Fiber
- 5 ○ Enhanced Extended Loop

6 **III. LOCAL INTERCONNECTION SERVICE (LIS)**

7 **Q. WHAT IS LIS?**

8 A. Qwest groups the rate elements associated with local interconnection into a service
9 known as "local interconnection service" or LIS. Through the use of LIS rate elements,
10 CLECs and Qwest may connect their respective networks together to transmit and route
11 telephone exchange service traffic and exchange access traffic.

12 **A. Multiplexing**

13 **Q. PLEASE DESCRIBE MULTIPLEXING AS IT RELATES TO QWEST'S LIS**
14 **OFFERINGS.**

15 A. Multiplexing is the process of: (1) combining multiple lower bandwidth communications
16 channels into a single higher bandwidth circuit (example: combining 28 DS1s into a
17 DS3); or (2) separating a higher bandwidth signal into multiple lower bandwidth signals
18 (example: separating a DS3 into 28 individual DS1s). Multiplexing is an optional service
19 that a CLEC may purchase from Qwest which allows, through the combining/separating
20 process described above, for more efficient use of the network.

21 **Q. WHAT MULTIPLEXING CHARGES ARE BEING ADDRESSED IN THIS**
22 **PROCEEDING?**

23 A. In this docket, Qwest is providing cost support and proposing recurring charges for
24 multiplexing in two situations: (1) DS3 to DS1; and (2) DS1 to DS0.

1 **B. Local Traffic/Reciprocal Compensation**

2 **Q. PLEASE DESCRIBE LOCAL TRAFFIC.**

3 A. Local traffic is traffic that originates and terminates within the same local calling area as
4 defined by the Commission. Through reciprocal compensation, the terminating party
5 bills the originating party for these calls.

6 **Q. WHAT LOCAL TRAFFIC CHARGES ARE BEING ADDRESSED IN THIS**
7 **PROCEEDING?**

8 A. Qwest is addressing the following local traffic rate elements:

- 9 o End Office Call Termination
- 10 o Tandem Switching
- 11 o Tandem Transmission

12 **Q. PLEASE DESCRIBE THE END OFFICE CALL TERMINATION RATE**
13 **ELEMENT.**

14 A. The end office call termination rate element is a per minute of use (MOU) element for the
15 use of the terminating end office switch to complete an Exchange Service (EAS/Local)
16 call.

17 **Q. PLEASE DESCRIBE THE TANDEM SWITCHING RATE ELEMENT.**

18 A. The tandem switching rate element is a per minute of use (MOU) element for the use of a
19 tandem switch for Exchange Service (EAS/Local) traffic for calls routed through a
20 local/access tandem switch for call completion. For traffic delivered through a Qwest
21 tandem switch, the tandem switching rate and a tandem transmission rate apply in
22 addition to the end office call termination rate. The tandem switching rate, a per minute
23 of use charge, is the same rate Qwest charges for unbundled local tandem switching when
24 it is provided as a UNE as described in the testimony of Mr. Morris.

1 **Q. PLEASE DESCRIBE THE TANDEM TRANSMISSION RATE ELEMENT.**

2 A. The tandem transmission rate element includes a fixed and per mile per minute of use
3 (MOU) recurring charge for the transmission of Exchange Service (EAS/Local) traffic
4 from the tandem switch to the terminating end office switch for call completion.

5 **C. Transit Traffic**

6 **Q. WHAT IS TRANSIT TRAFFIC?**

7 A. Transit traffic, when used in association with LIS, is traffic that neither originates nor
8 terminates on Qwest's network but which is routed across a portion of Qwest's network.
9 This includes traffic transmitted between two CLECs or traffic that is transmitted
10 between a CLEC and an ILEC (other than Qwest), interexchange carrier (IXC) or
11 wireless carrier. The key is that, although the traffic neither originates nor terminates on
12 Qwest's network, Qwest facilities are used to route the call.

13 **Q. WHAT TRANSIT TRAFFIC RATE ELEMENT IS QWEST ADDRESSING IN**
14 **THIS PROCEEDING?**

15 A. Qwest is addressing the Category 11 Mechanized Record Charge.

16 **Q. PLEASE DESCRIBE THE CATEGORY 11 MECHANIZED RECORD CHARGE.**

17 A. The Category 11 Mechanized Record Charge is a per record charge to recover the cost
18 for providing the CLEC that terminates a transit call with the available information that
19 CLEC needs to bill the originating carrier. The charge applies for each record created
20 and transmitted to the CLEC. Category 11 charges also apply for records used to provide
21 information necessary for billing Jointly Provided Switched Access Services.

22 **Q. IS THE CATEGORY 11 RATE ELEMENT THE SAME AS THE DAILY USAGE**
23 **FILE RATE ELEMENT?**

1 A. No, the Category 11 records are not transmitted as a part of the Daily Usage File (DUF).
2 DUF provides the accumulated set of call information for a given day as captured or
3 recorded by the call detail measurement equipment recorded at a Qwest Central Office
4 Switch. Examples of recorded usage records in DUF are Directory Assistance (DA),
5 Local Measured Service (LMS), usage sensitive CLASSTM features Qwest provided
6 intraLATA toll, and, if applicable, originating and terminating switched access records.
7 This file will be provided to CLECs that order resold services, UNE-P or unbundled
8 switch ports from Qwest.

9 In contrast, Category 11 records include wireline-originated transit, wireless-originated
10 transit, and terminating jointly-provided switched access records. Category 11 records
11 are transferred via magnetic tape, data cartridge, or electronically at the choice of the
12 CLEC.

13 **IV. UNBUNDLED NETWORK ELEMENTS (UNES)**

14 **A. Interconnection Tie Pairs (ITP)**

15 **Q. WHAT IS AN INTERCONNECTION TIE PAIR?**

16 A. An Interconnection Tie Pair (ITP) is a cable that is provided by Qwest and used to make
17 a connection between a UNE at the Main Distribution Frame (MDF) or Common System
18 Main Interconnecting (COSMICTM) frame and a demarcation point on Qwest's side of an
19 Interconnection Distribution Frame (ICDF). The ITP provides the pathway for the CLEC
20 to access Qwest UNES from its collocated facilities.

21 **Q. PLEASE EXPLAIN THE ITP ISSUE AS IT RELATES SPECIFICALLY TO** 22 **WASHINGTON AND THIS PROCEEDING.**

1 A. As I understand this issue, some parties have questioned the application of the ITP rate
2 element in the context of collocation, suggesting that Qwest should not be allowed to
3 assess that rate element.

4 **Q. CAN YOU PROVIDE SOME BACKGROUND FOR THIS ISSUE?**

5 A. Yes. Prior to 2001, Qwest had proposed ITP rates for both collocation and for
6 interconnection. The interconnection ITP element was associated with the expanded
7 interconnection channel termination rate element (EICT). The EICT element applies
8 when a CLEC utilizes Local Interconnection Service to interconnect its facilities with
9 Qwest's facilities. The rate element for Collocation Interconnection Tie-Pair is
10 applicable when a CLEC chooses to collocate with Qwest. The rates for Collocation Tie-
11 Pairs were established in Part A of Docket No. UT-003013 and the rate for Local
12 Interconnection EICT was established in Qwest's 271 proceeding (Docket Nos. UT-
13 003022/UT-003040).

14 Pursuant to the Commission's Fifteenth Supplemental Order in Qwest's 271 proceeding,
15 Qwest does not charge for Local Interconnection Service EICT.¹ Pursuant to the
16 Thirteenth Supplemental Order in UT-003013, Part A, Qwest's rates for collocation tie-
17 pairs were approved and became effective on May 8, 2001.² In its Thirty-Second
18 Supplemental Order in Part B of that same cost docket, the Commission addressed the
19 distinction between cost sharing for local interconnection and cost sharing for
20 collocation. The Commission affirmed that it required cost sharing for interconnection,

¹ *In the Matter of the Investigation Into U S WEST Communications, Inc.'s Compliance With Section 271 of the Telecommunications Act of 1996 and Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996*, Docket No. UT-003022 and UT-003040, Fifteenth Supplemental Order, Commission Order, August 20, 2001 at paragraph 155.

² *In the Matter of the Continued Costing and Pricing Proceeding for Interconnection, Unbundled Network Elements, Transport and Termination, and Resale*, Seventeenth Supplemental Order Approving Compliance Tariff Filings, Docket No. UT-003013, May 8, 2001.

1 but declined to do so for collocation. The Commission noted that it had established just
2 and reasonable collocation rates in Part A, and that implementation of collocation cost
3 sharing was unduly burdensome and costly.³

4 **Q. WHAT IS QWEST'S POSITION WITH REGARD TO CHARGING THE ITP**
5 **RATE ELEMENT FOR COLLOCATION?**

6 A. Qwest believes that it is permitted to do so. The Commission has affirmatively approved
7 the application of the ITP rate element in the context of collocation, and has ordered that
8 Qwest is not obligated to share the cost of collocation with CLECs. In addition, the
9 Commission was aware of the collocation ITP rate element at the time it ordered Qwest
10 not to assess the ITP for EICT. Thus, it appears as though this issue has been addressed
11 and that Qwest is permitted to charge the ITP for collocation.

12 **Q. WHAT RECURRING RATE ELEMENTS APPLY TO ITP?**

13 A. Flat-rated monthly recurring rate elements apply for DS0, DS1, and DS3 ITPs on a per
14 connection basis.

15 **B. Unbundled Loops**

16 **Q. PLEASE DESCRIBE THE QWEST UNBUNDLED LOCAL LOOP PRODUCT.**

17 A. Qwest's unbundled local loop product establishes a transmission path between a wire
18 center's main distribution frame, or equivalent, up to and including Qwest's network
19 interface device (NID) and/or demarcation point at the end user location.

³ *In the Matter of the Continued Costing and Pricing of Unbundled Network Elements, Transport, and Termination*, Docket No. UT-003013, Thirty-Second Supplemental Order; Part B Order; Line Splitting, Line Sharing Over Fiber Loops; OSS; Loop Conditioning; Reciprocal Compensation; and Nonrecurring and Recurring Rates for UNEs, June 21, 2002, at paragraph 112.

1 **Q. WHAT RECURRING UNBUNDLED LOOP RATE ELEMENTS ARE BEING**
2 **ADDRESSED IN THIS PROCEEDING?**

3 A. Qwest is proposing recurring rates for 2-wire/4-wire Analog Loops, 2-wire/4-wire Non-
4 Loaded Loops, and DS0 Capable Loops. For each of these categories, Qwest is
5 proposing rates for UNE-P Loops and UNE-L Loops. Qwest is also proposing recurring
6 rates for 2-wire Extension Technology and High Capacity Digital Capable Loops.

7 **Q. WHAT IS THE DIFFERENCE BETWEEN UNE-P AND UNE-L LOOPS?**

8 A. UNE-L Loop is a standalone unbundled loop, while UNE-P Loop is the loop portion of
9 the UNE-P offering which includes local switching, transport, etc.

10 **Q. DOES THE UNE-L LOOP ELEMENT INCLUDE GROOMING?**

11 A. Yes. The UNE-L Loop rate element includes any necessary grooming to separate
12 individual loops from Integrated Digital Loop Carrier (IDLC) systems. Grooming
13 essentially allows for the identification and separation of individual circuits from the
14 higher bandwidth carrier systems typically utilized to transport mass quantities of loops
15 over various distances.

16 **Q. WHAT RECURRING RATE ELEMENTS APPLY TO UNBUNDLED LOOPS?**

17 A. Flat-rated monthly recurring rates apply to:

- 18 • 2-wire and 4-wire analog voice grade loops and 2-wire and 4-wire non-loaded
19 loops in zones 1, 2, 3, 4 and 5.
20 • DS0, DS1, DS3, and OCn digital loops

21 **Q. PLEASE DESCRIBE THE DS0 CAPABLE LOOP.**

22 A. There are three types of DS0 capable loops: (1) Basic Rate ISDN Capable Loops, (2)
23 Digital Subscriber Loops , and (3) Asymmetric Digital Subscriber Loops (ADSL).

1 **Q. PLEASE DESCRIBE BASIC RATE ISDN CAPABLE LOOP.**

2 A. Basic Rate ISDN Capable Loop is a 2-wire interface that provides connectivity from the
3 Qwest Central Office (CO) Distribution Frame, or equivalent, to the loop demarcation
4 point at the end-user premises. This loop consists of three channels, two 64 kbps channels
5 for voice or data, and one 16 kbps channel strictly for data and signaling.

6 **Q. PLEASE DESCRIBE DIGITAL SUBSCRIBER LOOP.**

7 A. Digital Subscriber Capable Loop (XDSL) is a 2-wire facility that provides a transmission
8 path from the Qwest Central Office (CO) Distribution Frame, or equivalent, to the loop
9 demarcation point at the end-user premises. This loop transports bi-directional, 2-wire
10 signals with a nominal transmission rate of 160 kilobits per second (kbps). It will
11 permit access to 144 Kbps unchannelized payload bandwidth for transport of services and
12 allows CLECs to provide high bandwidth services, as well as Local Exchange services,
13 to their end-users.

14 **Q. PLEASE DESCRIBE ASYMMETRIC DIGITAL SUBSCRIBER LOOP.**

15 A. Asymmetric Digital Subscriber Line (ADSL) Compatible Loop is an unbundled 2-wire
16 metallic facility that establishes a transmission path between a Qwest Central Office
17 (CO) Distribution Frame or equivalent and the loop demarcation point at an end-user
18 premises. ADSL is used primarily to transmit data at self-adjusted rates determined by
19 the physical capacity of the specific loop.

20 **Q. WHAT DS0 CAPABLE LOOP RECURRING CHARGES APPLY?**

21 A. Flat-rated monthly recurring charges apply for each of the DS0 capable loops in zones 1,
22 2, 3, 4 and 5.

23 **Q. PLEASE DESCRIBE 2-WIRE EXTENSION TECHNOLOGY.**

1 A. 2-wire Extension Technology is the physical placement of range extension devices,
2 central office powering or regenerators, either at the CO or in the outside plant facilities,
3 within the Qwest network. Extension Technology may be requested with xDSL-I
4 Capable Loop to meet specific CLEC needs. Qwest may also place Extension
5 Technology on a requested loop to ensure that the network interface to network interface
6 requirements meet the American National Standards Institute (ANSI) Standards as set
7 forth in ANSI T1.601. Extension Technology added, in order to bring the loop in
8 compliance with the ANSI Standards, is not billed to the CLEC.

9 **Q. IS THERE A RECURRING CHARGE FOR 2-WIRE EXTENSION**
10 **TECHNOLOGY?**

11 A. Yes. A flat-rated monthly recurring charge applies.

12 **Q. PLEASE DESCRIBE HIGH CAPACITY DIGITAL CAPABLE LOOPS.**

13 A. There are three types of High Capacity Digital Capable Loops: (1) DS1 Capable Loop;
14 (2) DS3 Capable Loop; and (3) OC-n Capable Loop.

15 **Q. PLEASE DESCRIBE THE DS1 CAPABLE LOOP.**

16 A. The DS1 capable loop is a transmission path between a wire center network interface at a
17 DS1 panel or equivalent in a Qwest serving wire center and the network interface at the
18 end user location. The DS1 capable loop is capable of transporting bi-directional DS1
19 signals with a nominal transmission rate of 1.544 Mbit/s.

20 **Q. ARE THERE RECURRING CHARGES FOR DS1 CAPABLE LOOPS?**

21 A. Yes. A flat-rated monthly recurring charge applies for each DS1 capable loop ordered.

22 **Q. PLEASE DESCRIBE THE DS3 CAPABLE LOOP.**

1 A. The DS3 capable loop is an optical transmission path between a Qwest central office
2 network interface and an equivalent demarcation point at an end user location. The DS3
3 capable loop is capable of transporting bi-directional DS3 signals with a nominal
4 transmission rate of 44.736 Mbit/s.

5 **Q. ARE THERE RECURRING CHARGES ASSOCIATED WITH DS3 CAPABLE**
6 **LOOPS?**

7 A. Yes. A flat-rated monthly recurring charge applies for each DS3 capable loop ordered.

8 **Q. PLEASE DESCRIBE THE OCN CAPABLE LOOPS OFFERED BY QWEST.**

9 A. Optical Carrier Level n (OCn) Capable Loop is a high capacity Synchronous Optical
10 Network (SONET) digital transmission path that runs from a Qwest Central Office (CO)
11 to an end-user premise. The transmission path originates at a Qwest Fiber Distribution
12 Panel (FDP), or equivalent, in a Qwest CO and terminates at a Qwest-owned FDP at the
13 end-user premises. The SONET channel transports bi-directional high capacity SONET
14 signals at OC-3, OC-12 or OC-48 rates.

15 **Q. ARE THERE RECURRING CHARGES FOR OC-3, OC-12 AND OC-48?**

16 A. Yes. There is a flat-rated monthly recurring charge for each of these types of unbundled
17 loops.

18 **Q. WHAT IS A NETWORK INTERFACE DEVICE?**

19 A. The Network Interface Device (NID) provides an interface between Qwest's loop facility
20 and the end user's inside wire and is considered a component of the unbundled loop
21 facility. The NID is connected to a protective ground and provides protection against
22 lightning and other high voltage surges while being capable of terminating cables such as

1 twisted pair cable. The NID is available as a stand-alone element and is also an
2 integrated part of the unbundled loop facility or sub-loop facility.

3 **Q. WHAT RECURRING CHARGES APPLY TO THE NID?**

4 A. At this time Qwest is not proposing a recurring charge for a stand alone NID since no
5 CLEC has attempted to order one. In addition, the cost of implementing this stand-alone
6 element would exceed the potential revenues.

7 **C. Sub-Loops**

8 **Q. PLEASE DESCRIBE QWEST'S SUB-LOOP OFFERING?**

9 A. A sub-loop is defined as any portion of the loop that it is technically feasible to access at
10 Qwest accessible terminals located in Qwest's outside plant facilities. Consistent with
11 this definition, Qwest offers CLECs access to a subloop at accessible terminals wherever
12 such access is technically feasible. Qwest offers subloops in the feeder portion of the
13 network, the distribution portion of the network and also intrabuilding cable subloops. A
14 feeder subloop originates at the Qwest Central Office and ends at the Feeder Distribution
15 interface. The distribution subloop originates at the Feeder Distribution interface and
16 terminates at the end-user premises. The intrabuilding cable is a Qwest provided
17 distribution facility from a Multi-Tenant Environment (MTE) terminal to the demarcation
18 point (typically the NID) at the end-user premises inside the MTE building. In the
19 following testimony, I will describe the four sub-loop services being addressed in this
20 proceeding: (1) 2-Wire distribution subloop; (2) 2-Wire feeder subloop; (3) intra-building
21 cable-per pair; and (4) DS1 capable feeder subloop.

22 **Q PLEASE DESCRIBE THE 2-WIRE DISTRIBUTION SUBLOOP.**

1 A. The 2-Wire Distribution Subloop is the F2 or distribution portion of an Unbundled Local
2 Loop from the feeder-distribution interface (FDI) to a NID at the end-user's premises.

3 **Q. PLEASE IDENTIFY THE CHARGES APPLICABLE TO THE 2-WIRE**
4 **DISTRIBUTION SUBLOOPS.**

5 A. Flat-rated monthly recurring charges apply to each 2-wire distribution subloop located
6 within zones 1, 2, 3, 4 and 5.

7 **Q PLEASE DESCRIBE THE 2-WIRE FEEDER SUBLOOP.**

8 A. The 2-Wire Feeder Subloop is the F1 or feeder portion of an Unbundled Local Loop from
9 the Central Office to the FDI.

10 **Q. PLEASE IDENTIFY THE CHARGES APPLICABLE TO THE 2-WIRE FEEDER**
11 **SUBLOOPS.**

12 A. Flat-rated monthly recurring charges apply to each 2-wire feeder subloop located within
13 zones 1, 2, 3, 4 and 5.

14 **Q. PLEASE DESCRIBE THE INTRABUILDING CABLE LOOP PRODUCT.**

15 A. When the CLEC places outside plant to a building and wishes to access the Qwest-owned
16 riser cable or inside wire through a building terminal, it must order an intra-building
17 cable loop. The CLEC, or building owner, will place a common terminal or cross-
18 connect facility near the existing Qwest terminal that allows the Qwest facilities and the
19 CLEC facilities to be connected to each other.

20 **Q. WHAT INTRA-BUILDING LOOP CHARGES APPLY?**

21 A. A flat-rated monthly recurring charge applies for each intra-building loop.

22 **Q. PLEASE DESCRIBE QWEST'S DS1 CAPABLE FEEDER LOOP OFFERING.**

1 A. A DS1 capable feeder loop is a digital transmission path that is provisioned from a Qwest
2 central office interface consisting of a DSX-1 panel, or equivalent, to the accessible
3 terminal where the CLEC wishes to connect its facilities to Qwest's facilities. DS1
4 capable unbundled feeder loop transports bi-directional DS1 signals with a nominal
5 transmission rate of 1.544 Mbit/s.

6 **Q. DO RECURRING CHARGES APPLY FOR DS1 CAPABLE FEEDER LOOP?**

7 A. Yes. There is a flat-rated monthly recurring charge for the DS1 capable feeder loop.

8 **D. Unbundled Dedicated Interoffice Transport (UDIT)**

9 **Q. PLEASE DESCRIBE THE UNBUNDLED DEDICATED INTEROFFICE**
10 **TRANSPORT OFFERING.**

11 A. Unbundled Dedicated Interoffice Transport (UDIT) is a network element that provides a
12 CLEC with a single dedicated transmission path between two Qwest wire centers in the
13 same LATA. E-UDIT is a network element that provides a dedicated bandwidth specific
14 transmission path between the Qwest Serving Wire Center and the CLEC's Wire Center,
15 or an IXC's point of presence located within the same Qwest Serving Wire Center area.
16 UDIT and E-UDIT are available in DS0, DS1, DS3, OC-3, OC-12 and OC-48
17 bandwidths, where facilities are available.

18 **Q. WHAT RECURRING CHARGES APPLY TO UDIT/E-UDIT?**

19 A. While Qwest defines UDIT and E-UDIT as separate offerings, Qwest is proposing one
20 rate element for both services, applying recurring flat-rated monthly fixed and monthly
21 per mile charges for DS0, DS1, DS3, OC-3, OC-12 and OC-48. This is in accordance
22 with the Commission's order in Docket No. UT-003022/003040.

1 **Q. IS QWEST ADDRESSING OTHER UDIT/E-UDIT-RELATED PRODUCTS AND**
2 **SERVICES IN THIS COST PROCEEDING?**

3 A. Yes. Qwest is proposing rates in this docket for three additional UDIT/E-UDIT products
4 in this proceeding: (1) low side channel performance; (2) UDIT multiplexing; and (3)
5 Remote Node/Remote Port.

6 **Q. WHAT IS LOW SIDE CHANNEL PERFORMANCE AS IT APPLIES TO THE**
7 **UDIT PRODUCT?**

8 A. Low Side Channelization modifies the circuit with the basic performance requirements
9 needed for the circuit to function and this rate element recovers the cost of a plug-in that
10 goes into a 1/0 mux or, when a mux is not involved, a Metallic Facility Terminal (MFT).
11 These electronics are required to assure the transmission levels and signaling
12 requirements requested by the customer are met. This rate element is similar to the
13 Channel Performance rate element of a DS0 private line service.

14 **Q. WHAT CHARGES APPLY TO LOW SIDE CHANNELIZATION?**

15 A. A flat-rated monthly recurring charge applies to low side channelization. Flat-rated
16 monthly recurring charges also apply for low side channelization with multiplexing.

17 **Q. WHAT IS UDIT MULTIPLEXING?**

18 A. UDIT Multiplexing is offered as a stand-alone element associated with UDIT and is
19 offered in the following configurations:

- 20 • A 3/1 Multiplexer provides the ability to de-multiplex the DS3 44.736 Mbps signal to
21 28 DS1 1.544 Mbps channels.
- 22 • A 1/0 Multiplexer provides the ability to de-multiplex the DS1 1.544 Mbps signal to
23 24 DS0 channels.

24 **Q. WHAT CHARGES APPLY TO UDIT MULTIPLEXING?**

1 A. A flat-rated monthly recurring charge applies for “DS1 to DS0” and “DS3 to DS1” UDIT
2 Multiplexing.

3 **Q. PLEASE DEFINE REMOTE NODE AND REMOTE PORT IN CONJUNCTION**
4 **WITH E-UDIT.**

5 A. Remote Node provides the technical equipment necessary to deliver transport services in
6 high bandwidth capacities between a Qwest Wire Center and CLEC site. At least one
7 Remote Port (card) must be ordered with Remote Node to deliver the transmission over
8 the transport facility at a specified level (e.g. an OC3 Remote Node can deliver 3 DS3s or
9 84 DS1s via a port/s at OC12). A remote node/port is ordered in conjunction with E-
10 UDIT where remote node equipment exists and contains the necessary spare capacity.

11 **Q. WHAT RATES APPLY TO REMOTE NODES AND PORTS?**

12 A. There are flat-rated monthly recurring rates for OC3, OC12, and OC48 UDIT remote
13 nodes. There are also flat-rated monthly recurring charges for the associated DS1, DS3,
14 OC-3, and OC-12 remote ports.

15 **E. Unbundled Dark Fiber (UDF)**

16 **Q. PLEASE DESCRIBE QWEST’S UNBUNDLED DARK FIBER OFFERING.**

17 A. Unbundled Dark Fiber (UDF) is a deployed unlit pair of fiber optic cables or strands that
18 connect two points within Qwest’s network by terminating on a fiber distribution panel
19 (FDP). UDF is typically used by CLECs to provide high capacity transport and to
20 augment their local distribution network.

21 **Q. PLEASE SUMMARIZE THE UDF CHARGES THAT QWEST IS ADDRESSING**
22 **IN THIS COST PROCEEDING.**

1 A. Qwest is addressing three separate charges: (1) UDF-Interoffice Facilities (IOF) charges;
2 (2) UDF Loop charges; and (3) Extended Unbundled Dark Fiber (E-UDF).

3 **Q. PLEASE DESCRIBE THE UNBUNDLED DARK FIBER - INTEROFFICE**
4 **FACILITY.**

5 A. Unbundled Dark Fiber – Interoffice Facility (UDF-IOF) is an unlit pair of fiber optic
6 cable or strands that connect two Qwest wire centers.

7 **Q. WHAT RECURRING CHARGES APPLY TO UDF-IOF?**

8 A. The following monthly recurring charges apply to UDF-IOF:

- 9 • Fiber Termination, Fixed Per Pair / Office
- 10 • Fiber Transport, Per Mile / Pair
- 11 • Fiber Cross Connect, Per Pair / Office

12 These same elements are also available on a per strand basis.

13 **Q. PLEASE EXPLAIN EACH OF THESE UDF RATE ELEMENTS.**

14 A. Fiber termination is a means of connecting the Fiber Facility to the frame or FDP at the
15 premise or CLEC wire center. Fiber transport mileage measurements are billed in actual
16 fiber miles, rounded up to the next whole mile. Fiber cross-connect is used to connect
17 Qwest fiber cables from the FDP termination in the Qwest's central office to the CLEC's
18 fiber termination.

19 **Q. PLEASE DESCRIBE THE UNBUNDLED DARK FIBER LOOP.**

20 A. The Unbundled Dark Fiber Loop (UDF-Loop) is an existing loop that extends between a
21 Qwest wire center and a FDP located at an appropriate outside plant structure (CEV, Hut,
22 or RT) or an end-user customer's premises within the same wire center.

23 **Q. WHAT RECURRING CHARGES APPLY TO UDF-LOOP?**

1 A. The following monthly recurring charges apply to UDF-Loop:

- 2 • Termination, Fixed Per Pair / Office
- 3 • Termination, Fixed Per Pair / Premise
- 4 • Fiber Loop, per Route
- 5 • Fiber Cross Connect, Per Pair / Office

6 These same elements are also available on a per strand basis.

7 **Q. PLEASE DESCRIBE EXTENDED UNBUNDLED DARK FIBER.**

8 A. Extended Unbundled Dark Fiber (E-UDF) is an unlit pair of fiber optic cable or strands
9 located between a Qwest wire center and a CLEC wire center.

10 **Q. WHAT RECURRING CHARGES APPLY TO E-UDF?**

11 A. The following monthly recurring charges apply to E-UDF:

- 12 • Termination, Fixed Per Pair / Office
- 13 • Termination, Fixed Per Pair / Premise
- 14 • Fiber loop, Per Route
- 15 • Fiber Cross Connect, Per Pair / Office

16 These same elements are also available on a per strand basis.

17 **F. Enhanced Extended Loop (EEL)**

18 **Q. PLEASE DESCRIBE QWEST'S ENHANCED EXTENDED LOOP OFFERING.**

19 A. An Enhanced Extended Loop (EEL) is a means by which a CLEC may access an end user
20 customer not located in the same Qwest wire center in which the CLEC is located. An
21 EEL is a combination of a loop and dedicated interoffice transport facilities.

22 **Q. PLEASE IDENTIFY THE RECURRING CHARGES THAT APPLY TO EEL.**

1 A. Flat-rated monthly recurring charges apply to the following EEL and EEL-related
2 elements: EEL link; EEL transport; multiplexing; and DS0 channel performance. A
3 description of each element and its associated rate elements follows:

4 **(1) EEL Link:** The EEL link is the loop connection between the end user customer
5 premises and the serving wire center. Flat-rated monthly recurring charges apply to EEL
6 DS0 2-Wire Analog, EEL DS0 4-Wire Analog, DS1 EELs, and DS3 EELS ordered
7 within zones 1, 2, 3, 4 and 5, and to DS1 EELs and DS3 EELs.

8 **(2) EEL Transport:** EEL transport consists of the dedicated interoffice facilities
9 between Qwest wire centers or between a Qwest wire center and a CLEC wire center
10 within Qwest territory. Flat-rated recurring fixed and monthly recurring charges per mile
11 for DS0, DS1, DS3, OC-3, OC-12 and OC-48 apply.

12 **(3) EEL Multiplexing:** EEL Multiplexing is ordered in conjunction with a DS1 or
13 DS3 circuit as associated with EEL. Flat-rated monthly recurring charges apply for DS1
14 to DS0 and DS3 to DS1 multiplexing. The recurring charges are the same charges that
15 apply for UDIT multiplexing.

16 **(4) EEL DS0 Channel Performance:** Low Side Channelization modifies the circuit
17 with the basic performance requirements needed for the circuit to function. It may also
18 provide various signaling parameters necessary to enhance the basic performance. DS0
19 low side channelization and DS1/DS0 MUX low side channelization are the two rate
20 elements being addressed for EEL DS0 channel performance. Flat-rated recurring
21 charges apply to both types of channelization. These are the same recurring charges that
22 apply for UDIT channel performance.

1

V. CONCLUSION

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

3 **A.** Yes it does. Thank you.