



0000096515

32
62753

3033 North Third Street
Suite 1010
Phoenix, Arizona 85012
Office: 602-630-8255
Fax: 602-235-3107

RECEIVED



2001 AUG 31 P 3:40

Monica Luckritz
Manager-Policy and Law

AZ CORP COMMISSION
DOCUMENT CONTROL

August 31, 2001

ORIGINAL

Lyn Farmer
Chief Arbitrator
Hearing Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Dear Ms. Farmer:

RE: Docket No. T-00000A-00-0194

Pursuant to the Stipulation dated August 7, 2001, enclosed please find one original and ten copies of Qwest's testimony for Robert H. Brigham and Kathryn Malone.

Please let me know if you have any questions.

Sincerely,

Enclosures

Arizona Corporation Commission
DOCKETED
AUG 31 2001

DOCKETED BY

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF INVESTIGATION INTO]]
QWEST CORPORATION'S COMPLIANCE]]
WITH CERTAIN WHOLESALE PRICING]]
REQUIREMENTS FOR UNBUNDLED]]
NETWORK ELEMENTS AND RESALE]]
DISCOUNTS.]]

**DOCKET NO. T-00000A-00-0194
PHASE II-A**

TESTIMONY OF

ROBERT H. BRIGHAM

ON BEHALF OF

QWEST CORPORATION

AUGUST 31, 2001

Arizona Corporation Commission

DOCKETED

AUG 31 2001

DOCKETED BY	<i>msc</i>
-------------	------------

INDEX OF TESTIMONY

<u>EXECUTIVE SUMMARY</u>	ii
<u>I. IDENTIFICATION OF WITNESS</u>	1
<u>II. PURPOSE OF TESTIMONY</u>	2
<u>III. QWEST TELRIC DATA</u>	3
<u>A. Recurring and Nonrecurring Costs</u>	3
<u>B. Studies Filed</u>	6
<u>C. The ICM Switching Module</u>	10
<u>1. General Description</u>	10
<u>2. Switching Module Inputs</u>	13
<u>IV. DISCUSSION OF SPECIFIC COST STUDIES</u>	15
<u>A. Vertical Features / Analog Line Port</u>	15
<u>B. Other Switch Ports</u>	18
<u>C. Local Switching Usage</u>	19
<u>D. Unbundled Packet Switching</u>	20
<u>E. Remote Terminal Collocation</u>	21
<u>F. Custom Routing</u>	23
<u>V. CONCLUSION</u>	23

EXECUTIVE SUMMARY

Purpose of Testimony

On August 3, 2001, a stipulation was filed by Qwest, AT&T, Worldcom, XO, Cox and Staff proposing to defer local interconnection and switching cost issues to the present phase of this proceeding. On August 7, 2001, the Commission approved this stipulation. Therefore, my testimony is presenting costs and rates for Local Interconnection Service (LIS) elements and switching Unbundled Network Elements (UNEs), as summarized in Exhibit RHB-1.

Studies Filed

The Commission should consider TELRIC data filed by Qwest in the previous phase of this docket, as well as several new studies Qwest is filing with this testimony.

First, in the present phase of this docket, the Commission should consider TELRIC data filed with the rebuttal testimony of Ms. Teresa Million on June 27, 2001, for the following LIS and UNE elements:

Element	Recurring Study	Nonrecurring Study
Local Interconnection Service		
• End Office Call Termination	Study 5206 (ICM)	NA
• Tandem Switching	Study 5206 (ICM)	NA
• Tandem Transmission	Study 5206 (ICM)	NA
Unbundled Network Elements		
• Analog Line Side Port (excluding Features)	Study 5206 (ICM)	Study 5207
• Features	(New Study)	Study 5207
• Local Switching Usage	Study 5206 (ICM)	NA
• Digital Line Side Port (BRI ISDN)	Study 5206 (ICM)	Study 5207
• Digital Trunk Ports (DS1 Message, PRI ISDN, DID)	Study 5206 (ICM)	Study 5207
• Analog Trunk Port	Study 5206 (ICM)	NA
• Packet Switching	(New study)	Study 5299 Study 5300 Study 5207
• Subsequent Order Charge	NA	Study 5207

The Commission should also consider the new TELRIC data that I am providing for the following elements:

Element	Recurring Study	Nonrecurring Study
Unbundled Packet Switching	5646	(Existing study)
Analog Line Side Port (Features)	Study 5541 & 5542	NA
Customized Routing	NA	Study 5611
Remote Terminal Collocation	Study 5635	Study 5635

Exhibit RHB-1 provides a summary of Qwest's proposed TELRIC-based costs/prices for the LIS and UNE elements that are under consideration in this proceeding. Exhibit RHB-2, which is provided in compact disc format, contains the new cost studies that Qwest is filing at this time.

Conclusion

The Commission should establish prices for LIS and UNE elements based on the new and existing TELRIC data that Qwest has filed in this docket. The Qwest cost studies follow an appropriate TELRIC methodology, and are designed to fully comply with the FCC's TELRIC rules.

1 that position, I managed competitive and local interconnection issues for U S WEST and
2 supported U S WEST's interconnection negotiation and arbitration efforts. In June 1997, I
3 rejoined the U S WEST cost organization as Director- Service Costs. In my current
4 position with Qwest, I am responsible for managing cost issues, developing cost methods
5 and representing Qwest in proceedings before regulatory commissions.

6
7 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THIS**
8 **COMMISSION?**

9 A. Yes. I previously presented cost testimony in Docket E-1051-93-183.
10

11 **Q. HAVE YOU TESTIFIED BEFORE OTHER STATE REGULATORY**
12 **COMMISSIONS?**

13 A. Yes. I have presented testimony before commissions in Colorado, Iowa, Montana,
14 Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Utah and Wyoming.
15

16 **II. PURPOSE OF TESTIMONY**

17
18 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19 A. The purpose of my testimony is to present Total Element Long Run Incremental Cost
20 (TELRIC) data in support of Qwest's Statement of Generally Available Terms and
21 Conditions (SGAT). This cost data serves as the basis for Qwest's pricing proposals in this
22 phase of this proceeding.
23

24 On August 3, 2001, a stipulation was filed by Qwest, AT&T, Worldcom, XO, Cox and
25 Staff proposing to defer local interconnection and switching cost issues to the present phase

1 of this proceeding. On August 7, 2001, the Commission approved this stipulation.
2 Therefore, at this time, Qwest is proposing costs and rates for Local Interconnection
3 Service (LIS) elements and switching Unbundled Network Elements (UNEs). The
4 TELRIC results for these elements provide the basis for the proposed prices that are
5 summarized in Exhibit RHB-1.
6

7 III. QWEST TELRIC DATA

8 A. Recurring and Nonrecurring Costs

9
10 **Q. DO QWEST'S TELRIC STUDIES IDENTIFY RECURRING AND**
11 **NONRECURRING COSTS?**

12 A. Yes. Recurring costs are the ongoing costs associated with providing a service. These
13 costs are generally investment-related and include both capital costs and operating
14 expenses. Recurring costs are often presented as a flat cost per month or per unit of usage
15 (e.g., minute of use) and are incurred throughout the time period the service is provided to
16 a customer. Nonrecurring costs include the one-time costs that are incurred at the time a
17 customer establishes, disconnects or changes service. These costs normally result from a
18 customer order and are predominantly labor-related.¹
19

20 **Q. PLEASE SUMMARIZE HOW RECURRING COSTS ARE CALCULATED.**

21 A. The Integrated Cost Model (ICM) and the additional Qwest recurring cost studies filed in
22 this case employ the same basic procedures to arrive at a monthly recurring TELRIC cost
23 estimate:

¹ For collocation elements, including Remote Terminal Collocation, the cost of installing equipment (material and labor) are considered to be a nonrecurring cost.

1
2 1. **Define the Network Element or Service.** The cost analyst works with Qwest
3 product management and technical staff to define the element or service to be
4 studied. This step includes identification of all the network components that are
5 needed to provide the element or service, and an estimation of demand for the
6 element or service.

7
8 2. **Development of Investment.** The investment required to provide the service or
9 element is developed. The investment includes the actual vendor prices for
10 material and equipment, plus the cost to place the equipment, including
11 capitalized labor costs. Determination of the correct amount of investment is key
12 to the accuracy of any predictive cost model. Therefore, in addition to utilizing
13 actual vendor material information and contractor or internal placement costs,
14 Qwest relies on sound engineering practices to model the amount of investment
15 needed to provide a given service at a particular level of usage or demand.

16
17 3. **Estimation of Investment-related Capital Costs.** Investment-related capital
18 costs (depreciation, cost of money, income tax) are calculated based on the
19 application of annual cost factors to the investment. Capital costs comprise a
20 large portion of total service cost, and the level of capital cost is impacted by the
21 depreciation lives for the relevant plant accounts and the weighted cost of debt
22 and equity capital.

23
24 4. **Estimation of Operating Costs.** Operating expenses are estimated, in most
25 cases, utilizing annual cost factors. Investment-related operating expenses (e.g.,
26 maintenance expense) are calculated based on annual cost factors that are applied

1 to investment, while other operating expenses (e.g., marketing expenses) are
2 normally calculated based on factors that are applied to the investment-related
3 costs. These cost factors consider the historic relationships between expenses and
4 investment that the Company has experienced in the past, adjusted for
5 inflation/deflation and productivity increases. These operating expenses are
6 added to the capital costs to provide the TELRIC for the network element.

7
8 An appropriate share of common costs is allocated to the TELRIC costs to yield
9 the total cost (TELRIC plus Common).

- 10
11 5. **Validation of Results.** After costs have been estimated, this data is reviewed and
12 cross-checked with other cost data, to assure reasonableness. Results are
13 compared across states and across services. TELRIC results are also compared
14 with cost results derived from other cost models.

15
16 **Q. PLEASE SUMMARIZE THE GENERAL PROCEDURES THAT QWEST USES TO**
17 **CALCULATE NONRECURRING COSTS.**

18 A. Qwest calculates nonrecurring costs utilizing the following five step process:

- 19
20 1. The cost analyst, working with a product team, identifies the one-time activities
21 necessary to establish a particular service or network element. For example,
22 establishing an ISDN BRI Line Side Port for a customer normally requires
23 order-related activities to be performed by the Interconnection Service Center
24 (ISC), the Recent Change Memory Administration Center (RCMAC) and other
25 groups.
26

- 1 2. Based on special studies and input from subject matter experts, the cost analyst
2 estimates the *work time* associated with each of these non-recurring activities,
3 and the *probability* that each activity will occur.
4
- 5 3. The cost analyst then determines the appropriate labor rate for the personnel
6 performing each work activity. The time estimates, probabilities and labor rates
7 are loaded into the Enhanced Nonrecurring Cost (ENRC) model, which
8 multiplies the time estimate by the probability of occurrence and the appropriate
9 labor rate to develop the direct nonrecurring cost of each work activity.
10
- 11 4. The nonrecurring costs for each separate activity are aggregated into a direct
12 nonrecurring cost for each unbundled network element.
13
- 14 5. Annual cost factors are applied to assign additional administrative and other
15 costs to the direct nonrecurring costs, resulting in the nonrecurring TELRIC.
16 An appropriate share of common costs is also allocated to each element.
17

18 **B. Studies Filed**

19

20 **Q. WHAT TELRIC DATA SHOULD THE COMMISSION CONSIDER IN THE**
21 **PRESENT PHASE OF THIS PROCEEDING?**

- 22 A. The Commission should consider TELRIC data filed by Qwest in the previous phase of this
23 docket, as well as several new studies Qwest is filing with this testimony.
24

1 **Q. PLEASE DESCRIBE THE PREVIOUSLY FILED TELRIC DATA THAT THE**
2 **COMMISSION SHOULD CONSIDER AT THIS TIME.**

3 A. On August 3, 2001, Qwest, AT&T, Worldcom, XO, Cox, Sprint and Staff stipulated to
4 defer cost/price issues regarding Local Interconnection Service (LIS) and switching
5 Unbundled Network Elements (UNEs) to the present phase of this docket. On August 7,
6 2001, the Commission approved this stipulation, and set a procedural schedule for the
7 present phase of the proceeding.

8
9 While LIS and switching UNE issues have been deferred to the present phase of this
10 proceeding, Qwest has already filed most of the relevant cost studies with the Commission
11 in the previous phase of this docket. On March 15, 2001, Qwest filed the Integrated Cost
12 Model (ICM) with the Commission, along with several additional TELRIC studies. On
13 June 27, 2001, the ICM and the additional studies were updated, primarily to reflect the
14 9.61% cost of money ordered by the Commission. Since up-to-date cost data was filed in
15 June for the LIS elements and most of the switching UNE elements, the Commission
16 should rely on this data for consideration in this phase of the docket.

17

18 **Q. WHICH OF STUDIES FILED ON JUNE 27, 2001 SHOULD BE CONSIDERED IN**
19 **THE PRESENT PHASE OF THIS PROCEEDING?**

20 A. In the present phase of this docket, the Commission should consider TELRIC data filed
21 with the rebuttal testimony of Ms. Teresa Million on June 27, 2001, for the following LIS
22 and UNE elements:

1

Element	Recurring Study	Nonrecurring Study
• Local Interconnection Service		
• End Office Call Termination	Study 5206 (ICM)	NA
• Tandem Switching	Study 5206 (ICM)	NA
• Tandem Transmission	Study 5206 (ICM)	NA
• Unbundled Network Elements		
• Analog Line Side Port (excluding Features)	Study 5206 (ICM)	Study 5207
• Features	(New Study-See below)	Study 5207
• Local Switching Usage	Study 5206 (ICM)	NA
• Digital Line Side Port (BRI ISDN)	Study 5206 (ICM)	Study 5207
• Digital Trunk Ports (DS1 Message, PRI ISDN, DID)	Study 5206 (ICM)	Study 5207
• Analog Trunk Port	Study 5206 (ICM)	NA
• Packet Switching	(New study –See below)	Study 5299 Study 5300
• Subsequent Order Charge	NA	Study 5207

2

3 **Q. WERE THESE COST STUDIES FILED AS EXHIBITS TO MS. MILLION'S JUNE**
4 **27, 2001 TESTIMONY?**

5 **A.** Yes. These TELRIC studies were provided via compact disc as exhibits to the June 27,
6 2001 rebuttal testimony of Ms. Million. The following table provides a mapping of the
7 cost studies to Ms. Million's exhibits:

1

Study	Exhibit
Study 5206 (ICM)	TKM-02R
Study 5299 (Packet Switching-N)	TKM-22R
Study 5300 (Packet Switching -N)	TKM-21R
Study 5207 (Nonrecurring elements)	TKM-03R

2

3 **Q. WHAT NEW COST STUDIES IS QWEST FILING AT THIS TIME?**

4 A. Qwest is filing new TELRIC data for the following elements:

5

Element	Recurring Study	Nonrecurring Study
• Unbundled Packet Switching	5646	(Existing study-See above)
• Analog Line Side Port (Features) ²	Study 5541 & 5542	NA
• Customized Routing	NA	Study 5611
• Remote Terminal Collocation	Study 5635	Study 5635

6

7 **Q. ARE YOU PROVIDING AN EXHIBIT THAT SUMMARIZES THE COST**
8 **RESULTS?**

9 A. Yes. Exhibit RHB-1 provides a summary of the TELRIC-based costs/prices for the LIS
10 and UNE elements that are under consideration in this proceeding. Exhibit RHB-2, which
11 is provided in compact disc format, contains the five new cost studies listed above.³

² As described below, new cost data is being filed for vertical features. The NTS portion of the analog line port costs are included in Study 5206 (ICM), which was filed on June 27, 2001.

³ After producing the compact disc containing the cost studies, Qwest discovered that the executive summary provided with study 5542 (Cap Lease Port) is in error. I am providing a corrected executive summary as

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

C. The ICM Switching Module

Q. WILL YOU DESCRIBE THE INTEGRATED COST MODEL IN YOUR TESTIMONY?

A. I will not describe the overall Integrated Cost Model (ICM) in my testimony, since the model was described by Ms. Teresa Million in her March 15, 2001 testimony in the previous phase of this docket. However, I will describe the Switching Cost Model (SCM) that is contained within the ICM.

1. General Description

Q. PLEASE BRIEFLY DESCRIBE THE ICM SWITCHING COST MODEL (SCM) THAT IS USED TO CALCULATE SWITCHING COSTS.

A. The Switching Module of the ICM calculates switch investments utilizing the Switching Cost Model (SCM) program, which is incorporated into the ICM. The purpose of the SCM is to provide per-unit switching investments for various services, features and functions, including line and trunk ports, local switching usage and vertical features.

SCM contains four major modules. The **SCM Core** module calculates busy hour investments by switching function. SCM Core uses engineering information, along with the discounted vendor price for various equipment components, to develop a cost for each function performed by the switch. SCM Core produces costs for functions such as:

Exhibit RHB-2A of my testimony. This summary replaces the study 5542 executive summary contained on the compact disc.

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

- Investment per analog line
- Investment per processor millisecond
- Investment per network CCS
- Investment per 3-port conference circuit

The **SCM Features** module develops unit investments for vertical features, such as custom calling services.⁴ This module uses SCM Core outputs, along with feature usage data, to calculate the cost of a feature, usually on an investment per line basis. For example, Three Way Calling investment is developed by using the SCM Core outputs for “Investment per Millisecond” and “Investment per 3 Port Conference Circuit CCS,” along with usage data (e.g., average Three Way Calling busy hour CCS and calls) to derive the Three Way Calling investment per line.

The **SCM Calls** module develops the switching cost per line, and the switching cost for various types of calls:

- Line to line
- Line to trunk
- Trunk to line
- Trunk to trunk

⁴ The costs for individual vertical features are calculated in Study 5541, and are not included in the ICM output (Study 5206). However, the feature investments are calculated in the SCM.

1 The SCM Calls module develops these costs on a per busy hour attempt and per busy hour
2 conversation minute basis, utilizing SCM Core outputs along with data regarding how
3 much of these outputs are consumed, for example, to set up a call.

4
5 The **SCM Usage** module converts busy hour unit investments from the SCM Calls module
6 into an investment per call setup and per minute of use for various types of calls. These
7 data are used to develop per minute of use switching costs.

8
9 **Q. WHAT ARE THE PRIMARY COST DRIVERS THAT IMPACT THE SCM**
10 **RESULTS?**

11 A. The primary cost drivers for switching equipment include:

- 12
13 • The prices charged to Qwest by switch vendors
14 • The busy-hour demand per line and per trunk within a switch
15 • The number of lines served by the switch
16 • The trunk to line ratio required to meet the demand on the switch

17
18 **Q. HOW IS THE DATA FROM THE SWITCHING MODULE USED IN THE ICM?**

19 A. The Switching Module calculates switching investments for local switching, tandem
20 switching, end office analog ports, and vertical features.⁵ These investments are converted
21 to monthly or per minute of use costs via the application of cost factors, as depicted in the
22 ICM Output Workbook.

23

⁵ As noted earlier, the costs for individual vertical features are included in Study 5541, and are not included in the ICM output. However, the feature investments are calculated in the SCM.

1 **Q. DOES THE QWEST ICM MANUAL CONTAIN A MORE DETAILED**
2 **DESCRIPTION OF THE SWITCHING COST MODEL?**

3 A. Yes. The ICM manual and the SCM user manual are included in Exhibit TKM-02R, which
4 was filed on June 27, 2001.

5

6

2. Switching Module Inputs

7

8 **Q. WHAT ARE THE KEY INPUTS TO THE SWITCHING MODULE?**

9 A. The key inputs in the Switch Module of ICM are: the Growth Rate, the Administrative Fill
10 Factor for Analog Lines, the Administrative Fill Factor for Integrated Digital Lines, the
11 Administrative Fill Factor for Digital Trunks, and the Average Business Day Equivalents
12 per Year. In addition, the user can make changes to the vendor discount rates that are
13 applied in the ICM for various vendor switches. Descriptions of these discounts are
14 provided in the SCM User Manual.

15

16 **Q. HOW DOES QWEST DETERMINE THE APPROPRIATE GROWTH RATE TO**
17 **USE IN THE SWITCH MODULE?**

18 A. The default growth rate input value is based on a five year forecast provided by Local
19 Markets Forecasting using the Integrated Forecasting Tool. First, the forecasted growth in
20 switched analog and integrated digital lines for 1999 through 2003 is determined. Next,
21 this multi-year forecast is divided by 5 to derive an annual growth amount. The annual
22 growth amount is then divided by the base-year demand (i.e., 1999) to determine the
23 growth rate. The growth rate input value is 4.8984%.

24

25 **Q. PLEASE EXPLAIN WHAT YOU MEAN BY A "FILL FACTOR."**

1 A. "Fill" is an industry term for the assumed utilization to be placed on a piece of investment
2 (e.g., loop plant or a switch) when determining the unit cost.

3
4 **Q. HOW DOES QWEST DEVELOP THE RECOMMENDED DEFAULT**
5 **ADMINISTRATIVE FILL FACTORS FOR ANALOG LINES, INTEGRATED**
6 **DIGITAL LINES AND DIGITAL TRUNKS?**

7 A. Administrative spare capacity for analog and digital lines is used to account for:

- 8
- 9 • Malfunctioning equipment (e.g., ports)
 - 10 • Lines set aside for testing
 - 11 • Lines used for administrative purposes (e.g., lines to Switching Control Center,
12 Network Administration Center, etc.)
 - 13 • Lines reserved for special events, e.g., once a year events such as state fairs (Wire
14 center dependent)
 - 15 • Lines set aside in case the line forecast is exceeded prior to a scheduled line
16 growth job
 - 17 • Churn of dedicated inside plant (lines that are disconnected but left in place for a
18 limited time period awaiting a reconnect at the same location).

19
20 Based on an analysis of these various administrative needs, Qwest estimates that the
21 administrative line fill factor for both analog and digital lines is 95%, or 5% administrative
22 spare capacity.

23
24 Digital trunk spare capacity occurs because of the unused capacity due to the modularity of
25 trunk ports. The term "modularity" refers to the minimum amount of capacity that must be
26 added to meet the next increment of demand once current capacity reaches exhaustion.

1 Thus, as each new trunk group is added to meet demand, a certain amount of spare capacity
2 will exist until demand "catches up with" available capacity. The average number of
3 trunks per trunk group is 64, of which Qwest estimates an average of 12 trunks (half of a
4 DS1) will not be in use at any given time because of the effect of modularity. Accordingly,
5 the administrative fill factor due to modularity equals 52 / 64, or 81%.

6
7 **Q. HOW ARE THE VENDOR DISCOUNTS IN THE SWITCHING MODULE**
8 **DETERMINED?**

9 A. The vendor discounts are based on actual vendor contracts that Qwest has negotiated with
10 switch vendors. The latest available vendor discounts are entered into the ICM as default
11 values and are contained on pages marked "Vendor Proprietary" in Exhibit TKM-02R,
12 filed on June 27, 2001.

13
14 **IV. DISCUSSION OF SPECIFIC COST STUDIES**

15 **A. Vertical Features / Analog Line Port**

16
17 **Q. PLEASE SUMMARIZE QWEST'S INITIAL PROPOSAL FOR FEATURE COSTS,**
18 **AS DEFINED IN ITS MARCH 15, 2001 AND JUNE 27, 2001 TESTIMONY IN THE**
19 **PREVIOUS PHASE OF THIS DOCKET.**

20 A. In the previous phase of this docket, Qwest proposed that the Commission establish
21 individual recurring rates for each vertical feature. These individual feature costs were
22 presented in Exhibit TKM-09R, attached to the June 27, 2001 rebuttal testimony of Ms.
23 Teresa Million. Qwest also proposed nonrecurring rates for some features based on the
24 costs provided in Exhibit TKM-03R.

1

2 **Q. IS QWEST PRESENTING A NEW RECOMMENDATION FOR THE**
3 **TREATMENT OF FEATURE COSTS?**

4 A. Yes. Several parties in this proceeding have advocated (in Arizona and in other states) that
5 the cost of features should be included in the switch port.⁶ In order to meet the expressed
6 needs of these CLECs, Qwest agrees to move the recurring costs of features into the analog
7 line port UNE. In sum, Qwest is withdrawing its earlier proposal to price features on an
8 individual basis, and is instead proposing to include recurring feature costs in the analog
9 line port UNE. Qwest is not providing a new recommendation for nonrecurring feature
10 rates, which are based on the costs filed on June 27, 2001 (Study 5207; Exhibit TKM-03R).

11

12 **Q. IN ORDER TO IDENTIFY THE NEW RECURRING COST/PRICE FOR THE**
13 **ANALOG LINE PORT, WHAT COST DATA ARE YOU CONSIDERING?**

14 A. The analog line port includes three cost components:

15

- 16 • Analog Line Port (including line card, NTS equipment) Study 5206 (ICM)
- 17 • Feature Cost per line Study 5541
- 18 • Capital Lease Right to Use Fees Study 5542

19

20 The price for the Analog Line Port is based on the sum of the costs for these three
21 elements. The basic port cost is derived from the ICM provided in Exhibit TKM-02R filed
22 on June 27, 2001, and the feature and capital lease right to use fee costs are derived from
23 the cost data provided in Exhibit RHB-2 (Studies 5541 and 5542). Exhibit RHB-3 provides

⁶ For example, in the earlier phase of this docket, witness Michael Hydock, testifying on behalf of AT&T, WorldCom and XO, stated on page 15 of his direct testimony that "the cost of such features should be part and parcel of the switching port element."

1 a summation of these elements, yielding the new analog line port rate that is delineated in
2 Exhibit RHB-1.

3
4 **Q. PLEASE DESCRIBE THE BASIC NTS ANALOG LINE PORT.**

5 A. The first component of the Analog Line Port element, as identified in the ICM, provides
6 access to the basic functionality of the switch, including signaling digit reception and
7 translations, routing and rating, call supervision as well as access to interoffice services.
8 This analog end office port component is a two-wire, POTS type line side switch
9 connection. This component includes the non-traffic sensitive portion of the switch,
10 including the line card and a portion of the main distribution frame.

11
12 **Q. PLEASE SUMMARIZE THE PROCESS USED TO CALCULATE THE COST FOR**
13 **THIS COMPONENT OF THE ANALOG PORT IN ICM.**

14 A. The Switching Module of the ICM develops the investment for the analog line port. As
15 described above, the "investment per analog line" is an output of SCM Core. This
16 investment is converted into a monthly cost via the application of cost factors in the ICM.

17
18 **Q. PLEASE SUMMARIZE THE PROCESS USED TO DEVELOP THE FEATURE**
19 **COSTS ON A PER PORT BASIS IN STUDY 5541.**

20 A. First, the investment for each feature is calculated utilizing the SCM Features module that I
21 described in the previous section of my testimony. Second, the investment for each feature
22 is converted to a cost per month based on the application of cost factors. Third, the per
23 feature costs are converted to an aggregate feature cost per month, per port. To accomplish
24 this, each individual feature cost is multiplied by the quantity for each feature, to derive a
25 total monthly cost for each feature. The costs for all features are then aggregated to

1 produce a total forward-looking cost for the market basket of features. This aggregate cost
2 is then divided by total Arizona lines in service to derive a monthly feature cost per line.
3

4 **Q. PLEASE DESCRIBE CAPITAL LEASE RIGHT TO USE FEES.**

5 A. Capital Lease Right to Use fees represent fees paid by Qwest for switch applications
6 software, including the fees paid by Qwest for features software. It does not include the
7 cost of operating systems software, or generic switch upgrades. These costs are not
8 recovered via any other element.
9

10 **Q. PLEASE SUMMARIZE THE PROCESS USED TO DEVELOP THE CAPITAL
11 LEASE RIGHT TO USE FEE COSTS ON A PER PORT BASIS IN STUDY 5542.**

12 A. In the Capital Lease Right to Use fee study (Study 5542), Qwest has identified the per line
13 capital lease expense incurred by Qwest for applications software, based on the Local Area
14 Management Systems (LAMS) report. In the study, Qwest identifies the annual capital
15 lease applications software expenses incurred by Qwest,⁷ and divides this amount by the
16 total number of Qwest lines.⁸ The TELRIC is developed via the application of cost factors
17 to the direct expense.
18

19 **B. Other Switch Ports**

20
21 **Q. YOU HAVE DISCUSSED THE COSTS FOR THE ANALOG LINE PORT. HAS
22 QWEST CALCULATED THE COSTS FOR OTHER TYPES OF SWITCH PORTS?**

⁷ ISDN and Number Portability expenses are removed.

⁸ For a more detailed description of the calculations, see the "variables" tab of cost study 5542 in Exhibit RHB-2.

1 A. Yes. As noted earlier, and as summarized in Exhibit RHB-1, Qwest has developed
2 TELRIC for several types of ports, including the Digital Line Side Port (ISDN-BRI), DS1
3 digital trunk ports (Message, PRI, DID) and DS0 Analog Trunk Port. Definitions for these
4 port elements are contained in the ICM documentation provided in Exhibit TKM-02R on
5 June 27, 2001.⁹

6
7 **Q. HOW ARE THE COSTS FOR THESE PORT ELEMENTS DEVELOPED?**

8 A. The port investments are calculated using the Switching Module of the ICM (Study 5206).
9 The investments are converted into a monthly cost per port utilizing annual cost factors.
10

11 **C. Local Switching Usage**

12
13 **Q. PLEASE DESCRIBE THE SWITCHING USAGE ELEMENT.**

14 A. The ICM (Study 5206) provides costs for two local switching usage elements. First, Qwest
15 has calculated the costs for End Office call Termination, which is provided as a Local
16 Interconnection Service (LIS) element. Second, Qwest has calculated the costs for the
17 Switching Local Usage UNE. Both of these elements include the set up and duration costs
18 associated with switching a call. However, the LIS Call Termination element does not
19 include signaling, while the UNE Switching Usage element does include the costs for
20 signaling (i.e., the SS7 network). When a CLEC purchases LIS Call Termination,
21 signaling elements are purchased separately.
22

23 **Q. HOW ARE THE LOCAL SWITCHING USAGE COSTS DEVELOPED?**

⁹ For example, see the ICM "summary of results" tab of the ICM output workbook. If the user clicks on the element name, a description of the element will be displayed.

1 A. The local switching usage investments are calculated in the SCM Calls and SCM Usage
2 modules of ICM, as described earlier in my testimony. These investments are converted
3 into a cost per minute of use via the application of annual cost factors.
4

5 **D. Unbundled Packet Switching**

6
7 **Q. PLEASE BRIEFLY DESCRIBE THE UNBUNDLED PACKET SWITCHING**
8 **OFFERING.**

9 A. In its Third Report and Order and Fourth Further Notice of Proposed Rulemaking, CC
10 Docket No. 96-98, released November 5, 1999,¹⁰ the FCC required packet switching to be
11 unbundled in certain circumstances. These circumstances are discussed in the direct
12 testimony of Ms. Malone.

13
14 In the situations where Qwest is required to offer packet switching, Qwest provides
15 unbundled packet switch Interface Ports at either a DS-1 or DS-3 level in the central office.
16 The ports are the physical entry points into the ATM Cell Relay Service Network and
17 include the electronic equipment used in connecting the channel to the ATM Cell Relay
18 Service Network. In addition, the service includes an unbundled packet switch Customer
19 Channel that provides the path from the remote Digital Subscriber Line Access Multiplexer
20 (DSLAM) to the interface port, including all functionality of the DSLAM. If the CLEC
21 chooses to provide its own facility from the DSLAM to the central office, Qwest offers an
22 alternative to the Customer Channel that only provides the DSLAM functionality. The
23 recurring costs for these elements are calculated in Study 5646, which is contained in
24 Exhibit RHB-2, and the results are summarized in Exhibit RHB-1.

¹⁰ At paragraph 313.

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

Q. ARE THERE NONRECURRING COSTS ASSOCIATED WITH UNBUNDLED PACKET SWITCHING?

A. Yes. Nonrecurring costs for the work activities involved in provisioning the DS1/DS3 ATM Switch Interface Port(s) necessary to connect the unbundled packet switch Customer Channel are calculated in cost study 5300. Nonrecurring costs are also calculated in study 5299 for work activities necessary to connect the unbundled packet switch Customer Channel and the Distribution Subloop at an established Field Connection Point (FCP) arrangement. The nonrecurring charges vary depending on the way the CLEC chooses to purchase the Distribution Subloop. Ms. Malone discusses three possible alternatives the CLECs have to purchase Distribution plant, either from Qwest or from another CLEC.

E. Remote Terminal Collocation

Q. PLEASE BRIEFLY DESCRIBE THE REMOTE TERMINAL COLLOCATION OFFERING.

A. Remote Terminal Collocation offers space in available remote cabinets on a Standard Mounting Unit (SMU) level. The Remote Terminal Collocation cost study (Study 5635) includes two cost elements: Collocation Space and the FDI Terminations.

The nonrecurring Collocation Space element includes the cost of the cabinet space, the cost of the cabinet and all of the work and materials associated with placement of the cabinet and providing access to power. The cost study identifies the cost of materials, engineering, splicing, installation and rights of way. The recurring cost includes maintenance costs associated with this equipment, plus a small portion of the power pedestal.

1
2 The nonrecurring Feeder Distribution Interface (FDI) Terminations (per 25 pair) element
3 includes the costs associated with augmenting the FDI to provide the requested
4 terminations. This includes the material, engineering and splicing costs associated with
5 installing an SAI 25 pair block, and the material, engineering, splicing and installation
6 costs associated with the cable, conduit and innerduct required to connect the FDI to the
7 remote collocation cabinet. The recurring FDI termination cost includes the maintenance
8 costs associated with this equipment.

9
10 **Q. HOW ARE THE REMOTE TERMINAL COLLOCATION COSTS DEVELOPED?**

11 A. The Remote Terminal Collocation cost study identifies the material, engineering and
12 installation labor costs associated with various equipment components (e.g., the cabinet,
13 remote DSL pad, power pedestal, etc.) needed to provide the remote terminal collocation
14 elements. Annual cost factors are applied to the direct costs to derive the TELRIC and
15 TELRIC plus Common cost

16
17 **Q. IS THERE A CHARGE FOR REMOTE TERMINAL COLLOCATION POWER**
18 **USAGE?**

19 A. Yes. However, the Remote Terminal Collocation cost study does not identify a cost for
20 power consumption, since these costs/rates are identified in the Qwest Collocation Model
21 (CM) that was filed as Exhibit TKM-06R (Study 5238) in the previous phase of this
22 docket.

23

1 **F. Custom Routing**

2
3 **Q. PLEASE BRIEFLY DESCRIBE CUSTOM ROUTING.**

4 A. Custom Routing combines End Office (EO) switching with dedicated trunks to allow
5 CLECs the ability to request specific traffic routing direction by class of service via a
6 unique Line Class Code (LCC). Custom Routing can be requested for Operator Services
7 and Directory Assistance trunking.

8
9 **Q. WHAT ELEMENTS ARE IDENTIFIED IN THE QWEST CUSTOM ROUTING
10 COST STUDY?**

11 A. The Custom Routing cost study identifies the nonrecurring costs for Operator Service and
12 Directory Assistance trunking on a per LCC and per switch basis. The study identifies
13 account manager, technical support and complex translations time required to establish the
14 service.

15
16 **Q. HOW ARE THE CUSTOM ROUTING COSTS CALCULATED?**

17 A. The nonrecurring Custom Routing costs are calculated using the nonrecurring cost
18 methodology identified earlier in my testimony.

19
20 **V. CONCLUSION**

21
22 **Q. WHAT ACTION SHOULD THE COMMISSION TAKE IN THIS PROCEEDING?**

23 A. Qwest recommends that the Commission establish prices for LIS and UNE elements based
24 on the TELRIC data that Qwest has filed in this docket. The Qwest cost studies follow an

1 appropriate TELRIC methodology, and are designed to fully comply with the FCC's
2 TELRIC rules.

3

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

5 **A. Yes, it does.**

6

ARIZONA RATES

Arizona Corporation Commission
 Docket No. T-00000A-00-0194
 Phase II-A, Qwest Corporation
 Direct Testimony
 Exhibit RHB-1

	Recurring Fixed	Recurring	Non- Recurring	Cost Study I.D. #
7.0 Interconnection				
7.6 Local Traffic				
7.6.1 End office call termination, per minute of use		\$0.002143		5206
7.6.2 Tandem Switched Transport				
7.6.2.1 Tandem Switching, per Minute of Use		\$0.001589		5206
7.6.2.2 Tandem Transmission, per Minute of Use, all Mileage Bands				
0 to 8 Miles	\$0.000456	\$0.0000428		5206
8 to 25 Miles	\$0.000465	\$0.0000212		5206
25 to 50 Miles	\$0.000448	\$0.0000109		5206
Over 50 Miles	\$0.000433	\$0.0000039		5206
		Recurring	Nonrecurring	
8.0 Collocation				
8.8 Remote Collocation				
Space (per Standard Mounting Unit)		\$1.35	\$868.13	5635
FDI Terminations (per binder group [25-PR])		\$0.82	\$558.99	5635
9.0 Unbundled Network Elements (UNEs)				
9.11 Local Switching				
9.11.1 Analog Line Side Port, First Port		\$2.45	\$145.57	5206/5207 5541/5542
9.11.2 Analog Line Side Port, Each Additional		\$2.45	\$95.75	5206/5207 5541/5542
9.11.3 Local Usage, Per Minute of Use		\$0.002599		5206
9.11.4 Vertical Features				
10XXX Direct Dialed Blocking		\$0.00		
Account Codes - per system		\$0.00	\$80.01	5207
Attendant Access Line - per station line		\$0.00	\$1.16	5207
Audible Message Waiting		\$0.00	\$1.01	5207
Authorization Codes - per system		\$0.00	\$239.29	5207
Auto Callback		\$0.00		
Automatic Line		\$0.00	\$0.34	5207
Automatic Route Selection - Common Equip. per system		\$0.00	\$2,099.56	5207
Blocking of pay per call services		\$0.00		
Bridging		\$0.00		
Call Drop		\$0.00	\$0.34	5207
Call Exclusion - Automatic		\$0.00	\$1.01	5207
Call Exclusion - Manual		\$0.00	\$0.67	5207
Call Forward Don't Answer - All Calls		\$0.00		
Call Forwarding Incoming Only		\$0.00		
Call Forwarding Intra Group Only		\$0.00		
Call Forwarding Variable Remote		\$0.00		
Call Forwarding: Busy Line (Expanded)		\$0.00		
Call Forwarding: Busy Line (External)		\$0.00		
Call Forwarding: Busy Line (External) Don't Answer		\$0.00		
Call Forwarding: Busy Line (Overflow)		\$0.00		
Call Forwarding: Busy Line (Overflow) Don't Answer		\$0.00		
Call Forwarding: Busy Line (Programmable)		\$0.00		
Call Forwarding: Busy Line/Don't Answer Programmable Svc. Establishment			\$15.66	5207
CF DON'T ANSWER/CF BUSY CUSTOMER PROGRAMMABLE - PER LINE			\$1.01	5207
Call Forwarding: Busy Line/Don't Answer (Expanded)		\$0.00	\$37.92	5207
Call Forwarding: Don't Answer		\$0.00	\$37.92	5207
Call Forwarding: Don't Answer (Expanded)		\$0.00		
Call Forwarding: Don't Answer (Programmable)		\$0.00		
Call Forwarding: Variable		\$0.00		
Call Forwarding: Variable - no call complete option		\$0.00		
Call Hold		\$0.00		

ARIZONA RATES

Arizona Corporation Commission
 Docket No. T-00000A-00-0194
 Phase II-A, Qwest Corporation
 Direct Testimony
 Exhibit RHB-1

	Recurring Fixed	Recurring	Non- Recurring	Cost Study I.D. #
Call Hold/3-Way/Call Transfer		\$0.00		
Call Park (Basic - Store & Retrieve)		\$0.00		
Call Pickup		\$0.00		
Call Transfer		\$0.00		
Call Waiting Dial Originating		\$0.00		
Call Waiting Indication - per timing state		\$0.00	\$1.01	5207
Call Waiting Originating		\$0.00		
Call Waiting Terminating - All Calls		\$0.00		
Call Waiting Terminating - Incoming Only		\$0.00		
Call Waiting/ Cancel Call Waiting		\$0.00		
CENTREX COMMON EQUIPMENT			\$1,206.23	5207
Centrex Management System (CMS)		\$0.00		
Centrex Plus DID numbers per number		\$0.00		
Centrex Plus to Centrex Plus		\$0.00		
Centrex Plus to IC Carrier		\$0.00		
Centrex Plus to PBX/Key Blocked		\$0.00		
Centrex Plus to PBX/Key Non-Blocked		\$0.00		
CFBL - All Calls		\$0.00		
CFBL - Incoming Only		\$0.00	\$37.92	5207
CFDA Incoming Only		\$0.00	\$37.92	5207
CLASS - Anonymous Call Rejection		\$0.00		
CLASS - Call Trace		\$2.39		5297
CLASS - Call Waiting ID		\$0.00		
CLASS - Calling Name & Number		\$0.00		
CLASS - Calling Number Delivery		\$0.00		
CLASS - Calling Number Delivery - Blocking		\$0.00		
CLASS - Continuous Redial		\$0.00	\$1.26	5207
CLASS - Last Call Return		\$0.00	\$1.27	5207
CLASS - Priority Calling		\$0.00	\$1.20	5207
CLASS - Selective Call Forwarding		\$0.00	\$1.26	5207
CLASS - Selective Call Rejection		\$0.00	\$1.20	5207
Common Equipment per 1.544 Mbps facility (DS1)		\$0.00		
Conference Calling - Meet Me		\$0.00	\$42.47	5207
Conference Calling - Preset		\$0.00	\$42.47	5207
Custom Ringing First Line (Short/Long/Short)		\$0.00		
Custom Ringing First Line (Short/Short)		\$0.00		
Custom Ringing First Line (Short/Short/Long)		\$0.00		
Custom Ringing Second Line (Short/Long/Short)		\$0.00		
Custom Ringing Second Line (Short/Short)		\$0.00		
Custom Ringing Second Line (Short/Short/Long)		\$0.00		
Custom Ringing Third Line (Short/Long/Short)		\$0.00		
Custom Ringing Third Line (Short/Short)		\$0.00		
Custom Ringing Third Line (Short/Short/Long)		\$0.00		
Data Call Protection (DMS 100)		\$0.00		
Dir Sta Sel/Busy Lamp Fld per arrangement		\$0.00	\$0.34	5207
Directed Call Pickup with Barge-in		\$0.00	\$20.16	5207
Directed Call Pickup without Barge-in		\$0.00	\$20.16	5207
Distinctive Ring/Distinctive Call Waiting		\$0.00	\$40.31	5207
Distinctive Ringing		\$0.00		
EBS - Set Interface - per station line		\$0.00		
Executive Busy Override		\$0.00		
Expensive Route Warning Tone- per system		\$0.00	\$71.91	5207
Facility Restriction Level - per system		\$0.00	\$44.24	5207
Feature Display		\$0.00		
Group Intercom		\$0.00	\$0.46	5207
Hot Line - per line		\$0.00	\$1.01	5207
Hunting: Multiposition Circular Hunting		\$0.00		
Hunting: Multiposition Hunt Queuing		\$0.00	\$38.59	5207
Hunting: Multiposition Series Hunting		\$0.00		
Hunting: Multiposition with Announcement in Queue		\$0.00	\$38.59	5207
Hunting: Multiposition with Music in Queue		\$0.00	\$40.75	5207
Incoming Calls Barred		\$0.00		
International Direct Dial Blocking		\$0.00		
ISDN Short Hunt		\$0.00	\$1.70	5207
Line Side Answer Supervision		\$0.00		
Loudspeaker Paging - per trunk group		\$0.00	\$176.53	5207
Make Busy Arrangements - per group		\$0.00	\$0.67	5207
Make Busy Arrangements - per line		\$0.00	\$0.67	5207

ARIZONA RATES

Arizona Corporation Commission
 Docket No. T-00000A-00-0194
 Phase II-A, Qwest Corporation
 Direct Testimony
 Exhibit RHB-1

	Recurring Fixed	Recurring	Non- Recurring	Cost Study I.D. #
Message Center - per main station line		\$0.00	\$0.34	5207
Message Waiting Indication Audible/Visual		\$0.00		
Message Waiting Visual		\$0.00	\$0.34	5207
Music On Hold - per system		\$0.00	\$23.13	5207
Network Speed Call		\$0.00		
Night Service Arrangement		\$0.00		
Outgoing Calls Barred		\$0.00		
Outgoing Trunk Queuing		\$0.00		
Privacy Release		\$0.00	\$0.47	5207
Query Time		\$0.00	\$0.34	5207
Speed Calling 1 Digit Controller		\$0.00		
Speed Calling 1 Digit User		\$0.00		
Speed Calling 1# List Individual		\$0.00		
Speed Calling 2 Digit Controller		\$0.00		
Speed Calling 2 Digit User		\$0.00		
Speed Calling 2# List Individual		\$0.00		
Speed Calling 30 Number		\$0.00		
Speed Calling 8 Number		\$0.00		
Station Camp-On Service - per main station		\$0.00	\$0.34	5207
Station Dial Conferencing (6 Way)		\$0.00		
Station Message Detail Recording (SMDR)		\$0.00		
Three Way Calling		\$0.00		
Time and Date Display		\$0.00		
Time of Day Control for ARS - per system		\$0.00	\$125.82	5207
Time of Day NCOS Update		\$0.00	\$0.54	5207
Time of Day Routing - per line		\$0.00	\$0.52	5207
Toll Restriction Service		\$0.00		
Trunk Answer Any Station		\$0.00		
Trunk Verification from Designated Station		\$0.00	\$0.39	5207
UCD in hunt group - per line		\$0.00	\$0.67	5207
UCD with Music After Delay		\$0.00		
CMS - SYSTEM ESTABLISHMENT - INITIAL INSTALLATION			\$971.60	5207
CMS - SYSTEM ESTABLISHMENT - SUBSEQUENT INSTALLATION			\$485.80	5207
CMS - PACKET CONTROL CAPABILITY, PER SYSTEM			\$485.80	5207
SMDR-P - SERVICE ESTABLISHMENT CHARGE, INITIAL INSTALLATION			\$339.30	5207
SMDR-P - ARCHIVED DATA			\$177.29	5207
9.11.5 Subsequent Order Charge			\$13.57	5207
9.11.6 Digital Line Side Port (Supporting BRI ISDN)				
First Port		\$10.56	\$219.37	5206/5207
Each Additional Port		\$10.56	\$219.37	5206/5207
9.11.7 Digital Trunk Ports				
DS1 Local Message Trunk Port		\$56.98		5206
Message Trunk Group, First Trunk		\$15.78	\$209.14	5207
Message Trunk Group, Each Additional		\$15.78	\$50.84	5207
DS1 PRI ISDN Trunk Port		\$228.78	\$648.55	5206/5207
DS1 / DID Trunk Port		\$3.38	\$212.74	5206/5207
9.11.8 DS0 Analog Trunk Port				
First Port			\$123.11	5207
Each Additional			\$28.57	5207
9.12 Customized Routing				
9.12.1 Development of Custom Line Class Code – Directory Assistance or Operator Services Routing Only			\$315.87	5611
9.12.2 Installation Charge, per Switch Directory Assistance or Operator Service Routing Only			\$231.38	5611
9.12.3 All Other Custom Routing			ICB	
9.24 Unbundled Packet Switching				

ARIZONA RATES

Arizona Corporation Commission
 Docket No. T-00000A-00-0194
 Phase II-A, Qwest Corporation
 Direct Testimony
 Exhibit RHB-1

	Recurring Fixed	Recurring	Non- Recurring	Cost Study I.D. #
9.24.1 Unbundled Packet Switch Customer Channel		\$23.39		5646
DSLAM Functionality		\$20.28		5646
9.24.2 Customer Channel and Shared Distribution Loop			\$60.14	5299
Customer Channel and Unbundled Distribution Subloop			\$127.17	5299
Customer Channel and CLEC Provided Loop			60.14	5299
9.24.3 Unbundled Packet Switch Port				
DS1 Interface		\$135.05	\$227.50	5646/5300
DS3 Interface		\$208.02	\$227.50	5646/5300

A. PURPOSE, SCOPE, AND APPLICATION

The purpose of this study is to estimate the long run incremental costs Qwest will incur to purchase Application RTU (Right To Use) fees per Port.

This study develops the unitized total element long run incremental cost (TELRIC).

Costs developed in this study are monthly recurring costs per port for the Application RTU fees component of an unbundled Analog Line Side Port.

B. DESCRIPTION OF SERVICE

The total cost of an unbundled Analog Line Side Port is comprised of three components: Features per Port, Capital Lease RTU per Port, and Nontraffic Sensitive Central Office Equipment per Analog Line (from the ICM model).

The Application Software in this study is classified as Network Switching Software and has been capital leased since the early 1990's. Under this arrangement a sale-leaseback contract is executed. This software, because it is capital leased rather than capitalized as a direct investment, is not included in the investment models.

Right To Use software upgrades are one of the components of unbundled Analog Line Side Ports and the costs, therefore, are included in the port cost.

C. STUDY METHODOLOGY

The software costs identified are direct costs which occur as a result of providing local switching with vertical feature capability.

The capital lease information associated with this software is found in a financial database report called LAMS, which is used to accumulate application software to be capital leased. LAMS is used in this study because it provides a greater level of detail than the general ledger account on the books. The LAMS data, however, was verified to be within one-half percent of the amount booked in that account. This detail allows for the isolation of FRC 377c capital lease costs for features. Since the costs for Wireless are not included in this study, the calculations begin with the category found in LAMS called "Total 377 less Wireless". The total LNP (Local Number Portability) costs are subtracted out since these costs are conceptually recovered in the FCC's LNP rate element. ISDN related RTU's that are capital leased are identified and removed because they are recovered in the direct costs associated with ISDN BRI and PRI ports.

C. STUDY METHODOLOGY (cont.)

The net amount described above becomes the principal for the capital lease. Interest expense is computed for a thirty-six month payment period using the Cost of Debt. Since the capital lease term is for three years, only one third of any one sale-leaseback contract's expense is incurred in any given year. However there are capital lease expenses associated with all contracts executed in the previous three years. So, on average, capital lease expense in any one year is equivalent to the total three year expense incurred from contracts executed in any one year.

Total average annual capital lease expense is comprised of the amortization and interest expense. This annual expense is converted to a per port value by dividing it by the total number of working lines. The source for the working lines is the SCM Core database. The annual capital lease per port expense is then divided by twelve months to convert to a monthly expense.

The WINPC3 model develops Total Element Long Run Incremental Costs (TELRIC) from investments and/or expenses associated with Qwest products and services. The expenses utilized in this study are described above. The WINPC3 model loads this expense with directly assigned, directly attributable, and common costs.

D. DESCRIPTION OF LONG RUN INCREMENTAL COSTS

Total Element Long Run Incremental Cost (TELRIC) studies are performed by Qwest to estimate the economic cost of providing network elements. The Qwest TELRIC studies identify the forward-looking costs associated with the provision of the total quantity of a network element in the long run. The forward-looking Qwest TELRIC studies identify the costs that are likely to be incurred in the future, and consider the latest forward-looking technologies and methods of operation that are currently available. These studies are *not* embedded or historical, and do not measure the impact of prior investment decisions by the corporation. The Qwest TELRIC studies also identify the long run costs associated with providing a network element--reflecting a time period over which all inputs (including changes in the size of facilities, levels of investment, etc.) can be adjusted.

Qwest TELRIC studies identify recurring and nonrecurring costs. Recurring costs are the ongoing costs associated with providing a network element. Recurring costs are generally investment-related and include both capital costs and operating expenses. These costs are often presented as a cost per month or per unit of usage (e.g., minute of use) and are incurred throughout the time period the network element is provided to a customer.

D. DESCRIPTION OF LONG RUN INCREMENTAL COSTS (Cont.)

Nonrecurring costs are the one-time costs that are incurred at the time a customer establishes, disconnects or changes service. These costs normally result from a customer order, and are predominantly labor-related.

The Qwest recurring and nonrecurring TELRIC studies identify costs on a unitized basis and

disaggregates the cost results into the following components:

Total Direct Costs are the forward-looking costs that are caused by offering the network element in the long run. These costs would not be incurred if the network elements were not offered. Total Direct Costs reflect the per-unit forward looking cost associated with providing the entire network element in the most efficient manner, the production of all other network elements produced by the firm. For recurring element costs Total Direct Costs include the capital costs (e.g., depreciation, return, taxes) and maintenance costs associated with the investment required to provision a network, along with other network element-specific costs such as product management expense. For nonrecurring costs, Total Direct Costs include the labor-related expenses associated with the provision of a network element, along with other network element-specific costs such as product management expense.

Directly Attributed Costs include network administration and engineering costs and various administrative costs such as the cost of general-purpose computers and accounting and finance expenses. These costs are not directly associated with a specific network element. However, these costs vary with the provision of all network elements, and are not common to the entire firm.

Total Element Long Run Incremental Costs (TELRIC) represent the sum of Total Direct Costs and Directly Attributable Costs. This measure of costs includes the forward-looking costs incurred in the provision of a network element. This measure of costs is consistent with TELRIC as defined by the FCC.

Common Costs are associated with the enterprise as a whole. These costs do vary based on the total size of the firm, but do not vary with the provisioning of individual network elements. These costs are avoidable only with the elimination of the entire firm, and are sometimes referred to as *general overhead costs*.

Fully Allocated Costs represent the sum of Total Element Long Run Incremental Cost plus Common Costs (TELRIC + CC).

E. STUDY ASSUMPTIONS

1. Application RTU per port expenses from 1998 to 2000 are the most accurate representation of forward looking.
2. All costs displayed are represented on a per port basis.
3. The capital lease interest rate is equal to Qwest's cost of debt.

SUMMARY
ANALOG LINE SIDE PORT RATE ADJUSTMENT

Feature Cost Per Port Calculation

Source	Total Feature Costs	Category
Cost from DALPS 152 report January 2001	\$1,108,390.30	CENTRAL OFFICE FEATURES
Cost from DALPS 178 report January 2001	\$711,365.74	CENTREX 21 FEATURES
Cost from DALPS 174 report January 2001	\$90,286.97	CENTREX PLUS FEATURES
Cost from DALPS 144 report January 2001	<u>\$4,510.28</u>	CENTRON I
Total Cost for Arizona	\$1,914,553.29	
Total Arizona Lines from SCM	2,934,540	
Feature Cost per Port	<u>\$0.65</u>	(Study 5206)
Cap Lease Port - Monthly	<u>\$0.51</u>	(Study 5542)
Analog Line Side Port Cost	<u>\$1.28</u>	(Study 5541)

Analog Line Side Port Cost
Adjusted to Include Features & Cap Lease

Port Rate, Including Features, & Cap Lease **\$2.45**

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF INVESTIGATION)
INTO QWEST CORPORATION'S)
COMPLIANCE WITH CERTAIN)
WHOLESALE PRICING REQUIREMENTS)
FOR UNBUNDLED NETWORK)
ELEMENTS AND RESALE DISCOUNTS)
STATE OF COLORADO)
COUNTY OF DENVER)

DOCKET NO. T-00000A-00-0194
Phase II A

AFFIDAVIT OF
ROBERT H. BRIGHAM

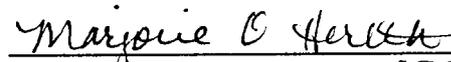
Robert H. Brigham, of lawful age being first duly sworn, deposes and states:

1. My name is Robert H. Brigham. I am Director – Service Costs for Qwest Corporation in Denver, Colorado. I have caused to be filed written testimony and exhibits in support of Qwest Corporation in Docket No. T-00000A-00-0194, Phase II A.
2. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Further affiant sayeth not.


Robert H. Brigham

SUBSCRIBED AND SWORN to before me this 22nd day of August, 2001.


Notary Public residing at 2730 W. Wesley Ave
Denver, Colorado #2, Denver CO 80219

My Commission Expires: 3-6-05

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF INVESTIGATION)
INTO QWEST CORPORATION'S)
COMPLIANCE WITH CERTAIN)
WHOLESALE PRICING REQUIREMENTS)
FOR UNBUNDLED NETWORK)
ELEMENTS AND RESALE DISCOUNTS)
STATE OF COLORADO)
COUNTY OF DENVER)

DOCKET NO. T-00000A-00-0194
Phase II A

AFFIDAVIT OF
ROBERT H. BRIGHAM

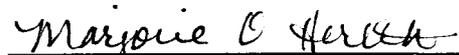
Robert H. Brigham, of lawful age being first duly sworn, deposes and states:

1. My name is Robert H. Brigham. I am Director – Service Costs for Qwest Corporation in Denver, Colorado. I have caused to be filed written testimony and exhibits in support of Qwest Corporation in Docket No. T-00000A-00-0194, Phase II A.
2. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Further affiant sayeth not.


Robert H. Brigham

SUBSCRIBED AND SWORN to before me this 22nd day of August,
2001.


Notary Public residing at 2730 W. Wesley Ave
Denver, Colorado #2, Denver CO 80219

My Commission Expires: 3-6-05

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF INVESTIGATION INTO]]
QWEST CORPORATION'S COMPLIANCE]]
WITH CERTAIN WHOLESALE PRICING]]
REQUIREMENTS FOR UNBUNDLED]]
NETWORK ELEMENTS AND RESALE]]
DISCOUNTS.]]

DOCKET NO. T-00000A-00-0194

Phase II-A

DIRECT TESTIMONY OF

KATHRYN MALONE

ON BEHALF OF

QWEST CORPORATION

August 31, 2001

TESTIMONY INDEX

I. EXECUTIVE SUMMARY	1
II. IDENTIFICATION OF WITNESS	1
II. III. PURPOSE OF TESTIMONY	2
III. LOCAL INTERCONNECTION SERVICE	3
A. LOCAL TRAFFIC	3
IV. UNBUNDLED NETWORK ELEMENTS	4
A. LOCAL TANDEM SWITCHING	4
B. LOCAL SWITCHING	5
1. <i>Line Side Ports</i>	5
2. <i>Vertical Features</i>	6
3. <i>Trunk Ports</i>	7
C. UNBUNDLED PACKET SWITCHING	8
D. REMOTE TERMINAL COLLOCATION	12
E. CUSTOMIZED ROUTING	13
V. CONCLUSION	14

I. EXECUTIVE SUMMARY

The purpose of my testimony is to present Qwest's product descriptions and pricing for Local Interconnection Service and certain unbundled network elements (UNEs). The prices established for Local Interconnection Service and unbundled elements will be set in this portion of the proceeding based on cost. The TELRIC cost of each element is presented in the testimony of Robert H. Brigham. The price that Qwest is proposing is the TELRIC cost for Local Interconnection Service and Unbundled Network Elements (UNEs). The pricing methodology is consistent with the Telecommunications Act, with FCC orders and with Arizona Corporation Commission Rules. I respectfully request this commission approve the pricing proposed in this docket.

1 **II. IDENTIFICATION OF WITNESS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS AND POSITION WITH**
3 **QWEST CORPORATION.**

4 A. My name is Kathryn Malone, I am employed by Qwest Corporation (Qwest), f/k/a
5 U S WEST Communications, Inc. as a Manager of Wholesale Advocacy in the Wholesale
6 Markets organization. My business address is 1801 California St, Room 2360, Denver,
7 Colorado 80202.

8 **Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE.**

9 A. I began my career with Qwest (formerly U S West) in 1964 in the Denver Operator Services
10 Department. In 1968, I joined the Network Facilities Department as a technical assistant.
11 From 1968 to 1978, I held various positions responsible for coordination and design of
12 Outside Plant Facilities. In 1978, I was promoted to Budget Manager and was responsible
13 for preparation and forecasting of both the construction and maintenance budgets in
14 Arizona, Colorado, Montana and Wyoming.

15 In May 1984, after the divestiture of the Bell System, I accepted a position in the Revenue
16 Requirements Department. In that capacity, I was responsible for cost settlements with
17 local exchange carriers. My responsibilities included analysis of cost separation studies. In
18 January 1990, I was promoted to Senior Access Manager with responsibility for developing
19 and negotiating contractual arrangements for toll access compensation with local exchange
20 carriers. In March 1998, I accepted my current position of Manager - Wholesale Markets,

1 and am responsible for certain issues surrounding interconnection and resale of products and
2 services.

3 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE ARIZONA**
4 **CORPORATION COMMISSION?**

5 A. Yes.

6 **II. III. PURPOSE OF TESTIMONY**

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

8 A. The purpose of my testimony is to describe Local Interconnection Service (Local Traffic)
9 and certain Qwest unbundled network elements (UNEs), along with their pricing elements,
10 which include recurring and non-recurring charges as appropriate. Prices associated with
11 local traffic and each UNE addressed in my testimony are included in Exhibit RHB-1,
12 which is attached to the testimony of Robert H. Brigham. Specifically, I will describe the
13 following elements:

- 14 • **Local Interconnection Service**
- 15 • Call Termination
- 16 • Tandem Switching
- 17 • Tandem Transmission
- 18 • **Unbundled Network Elements**
- 19 • Local Tandem Switching
- 20 • Local Switching
- 21 • Unbundled Packet Switching
- 22 • Remote Terminal Collocation
- 23 • Customized Routing

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

III. LOCAL INTERCONNECTION SERVICE

A. Local Traffic

Q. WHAT RATES ARE INCLUDED IN THE LOCAL TRAFFIC CATEGORY?

A. The following fixed and distance sensitive recurring charges apply to Local Traffic:

- End office call termination, per minute of use
- Tandem Switched Transport

Tandem Switching, per minute of use

Tandem Transmission, per minute of use

0-8 miles

8-25 miles

25-50 miles

Over 50 miles

Q. WHAT IS THE END OFFICE CALL TERMINATION RATE ELEMENT?

A. The end office call termination rate element is a per minute of use charge for the use of the terminating end office switch to complete a local call.

Q. WHAT IS THE TANDEM SWITCHING RATE ELEMENT?

A. The tandem switching rate element is a per minute of use charge for the use of a tandem switch in the event a call is routed through a local tandem switch for call completion.

Q. WHAT IS THE TANDEM TRANSMISSION RATE ELEMENT?

A. The tandem transmission rates include a fixed (non-distance sensitive) per minute of use charge and a per minute, per mile charge for the transmission of traffic from the tandem switch to the terminating end office switch for call completion.

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

B. Local Switching

Q. PLEASE DESCRIBE LOCAL SWITCHING.

A. Access to unbundled switching encompasses line-side and trunk-side facilities, plus the features, functions and capabilities of the switch. The features, functions, and capabilities of the switch include the basic switching function, as well as the same basic capabilities that are available to Qwest's end-user customers. Unbundled local switching also includes access to all vertical features that the switch is capable of providing, as well as any technically feasible customized routing functions. Local Switching is available pursuant to FCC rules.

1. Line Side Ports

Q. PLEASE DESCRIBE A LINE SIDE PORT.

A. The analog line port is a two -wire interface on the line-side of the end office switch that is extended to the Main Distribution Frame (MDF). The analog line port includes vertical features.

Q. DOES QWEST PROPOSE A RECURRING CHARGE FOR AN ANALOG LINE SIDE PORT?

A. Yes. The recurring rates for the first analog line port and each additional analog line port are included in Exhibit RHB-1.

Q. DOES QWEST PROPOSE A NONRECURRING RATE FOR THE ANALOG LINE SIDE PORT?

1 A. Yes. Qwest proposes a nonrecurring rate for the first analog line side port and each
2 additional analog line side port as listed in Exhibit RHB-1.

3 **Q. PLEASE DESCRIBE A DIGITAL LINE PORT (SUPPORTING BRI ISDN).**

4 A. Basic Rate Interface Integrated Services Digital Network (BRI-ISDN) is a digital
5 architecture that provides integrated voice and data capability (2-wire). A BRI ISDN Port is
6 a Digital 2B+D (2 Bearer Channels for voice or data and 1 Delta Channel for signaling and
7 D Channel Packet) line-side switch connection with BRI ISDN voice and data basic
8 elements. A BRI ISDN Port does not offer B Channel Packet service capabilities.

9 **Q. DOES QWEST PROPOSE A RECURRING RATE FOR A DIGITAL LINE PORT?**

10 A. Yes. The recurring rate is listed in Exhibit RHB-1.

11 **Q. DOES QWEST PROPOSE NONRECURRING CHARGES FOR A DIGITAL LINE-
12 SIDE PORT?**

13 A. Yes. Qwest proposes nonrecurring charges for the first port and each additional port. The
14 nonrecurring charges are included in Exhibit RHB-1.

15 **2. Vertical Features**

16 **Q. PLEASE DESCRIBE VERTICAL FEATURES.**

17 A. Vertical features are software attributes on end office switches.

18 **Q. IS QWEST PROPOSING VERTICAL FEATURES IN THIS DOCKET?**

19 A. Yes. Qwest is proposing a list of vertical features that are available to CLECs that purchase
20 a line side port.

1 **Q. DO THE INDIVIDUAL FEATURES PROPOSED BY QWEST HAVE A**
2 **RECURRING CHARGE?**

3 A. No. The unbundled line port includes the vertical switch features in its cost.

4 **Q. DO THE INDIVIDUAL FEATURES PROPOSED BY QWEST HAVE**
5 **NONRECURRING CHARGES?**

6 A. Certain vertical switch features have a specific non-recurring charge. Please see Exhibit
7 RHB-1 for the features list and corresponding nonrecurring charges. These nonrecurring
8 charges recover the cost of additional work necessary to activate specific vertical switch
9 features.

10 **Q. PLEASE DESCRIBE THE NONRECURRING VERTICAL FEATURE**
11 **SUBSEQUENT ORDER CHARGE?**

12 A. A nonrecurring subsequent order charge applies when a CLEC orders additional vertical
13 features to an existing port. The rate is listed in Exhibit RHB-1.

14 **3. Trunk Ports**

15 **Q. WHAT TYPES OF TRUNK PORTS DOES QWEST OFFER?**

16 A. Qwest offers the following types of trunk ports:

17 DS1 Local Message Trunk Port. A DS1 Trunk Port is a DS1 trunk side switch port that is
18 extended to the trunk main distribution frame and is connected to the demarcation point
19 through an Interconnection Tie Pair (ITP). Each DS1 Trunk Port includes a subset of 24
20 DS0 channels capable of supporting local message type traffic.

1 Unbundled DS1 PRI ISDN Trunk Port (Supporting DID/DOD/PBX). A DS1 Trunk Port is
2 a DS1 trunk-side switch port terminated at a DSX1 or equivalent. Each DS1 Trunk Port
3 includes a subset of 24 DS0 channels capable of supporting DID/DOD/PBX type traffic.

4 The DS0 analog trunk port connects the CLEC to a metallic interface at the common ICDF
5 in a Qwest central office. The interfaces support a 2-wire or a 4-wire transmission.

6 **Q. DOES QWEST PROPOSE RECURRING CHARGES FOR TRUNK PORTS?**

7 A. Yes. Qwest proposes recurring charges for trunk ports as listed in Exhibit RHB-1.

8 **Q. DOES QWEST PROPOSE NONRECURRING CHARGES FOR TRUNK PORTS?**

9 A. Yes. Qwest proposes the nonrecurring charges for trunk ports as listed in Exhibit RHB-1.
10 There is a nonrecurring charge for the digital trunk port, as well as non-recurring charges for
11 the establishment of the first and each additional message trunk group member associated
12 with the digital trunk port.

13 **C. Unbundled Packet Switching**

14 **Q. PLEASE DESCRIBE UNBUNDLED PACKET SWITCHING ("UPS").**

15 A. Unbundled Packet Switching provides the functionality of delivering packet data units via a
16 virtual channel between a CLEC demarcation point and the Remote Terminal Digital
17 Subscriber Line Access Multiplexer (DSLAM). Unbundled Packet Switching includes
18 transport facilities between the DSLAM and the Qwest central office, DSLAM functionality
19 and the ATM electronics necessary to generate a virtual channel.¹

¹ In the UNE Remand Order, the FCC defined the functionality of the packet switching unbundled network element. In the Matter of Implementation of the Local Competition Provision of the Telecommunications Act of

1 **Q. PLEASE EXPLAIN WHAT A VIRTUAL CHANNEL AND DSLAM**
2 **FUNCTIONALITY ARE.**

3 A. A virtual channel is a non-permanent channel that is set up to route data from one location
4 to another (rather than a dedicated permanent channel that can be used by only one entity).
5 In the case of packet switching, the channel is set up in advance of the routing of the packets
6 and is in place throughout the transmission of the packets. This creates the virtual path over
7 which all packets for this particular transmission will go. Once the packets are transmitted,
8 the path is released.² DSLAM functionality provides the capability and programming that
9 allows for both up-stream and down-stream data feeds and is responsible for routing the
10 virtual channel to the appropriate place.

11 **Q. DOES UNBUNDLED PACKET SWITCHING PROVIDE A CLEC WITH ACCESS**
12 **TO THE DISTRIBUTION PORTION OF THE LOOP?**

13 A. No. UPS only covers the feeder portion of the loop - from the CLEC demarcation point in
14 the central office out through, and including, the Feeder Distribution Interface (FDI).

1996; Third Report and Order and Fourth Further Notice of Proposed Rulemaking, CC 96-98, FCC 99-238 ¶302 (rel. Nov. 5, 1999) (UNE Remand Order). The FCC stated:

In packet-switched networks, messages between network users are divided into units, commonly referred to as packets, frames, or cells. These individual units are then routed between network users. The switches that provide this routing function are "packet switches," and the function of routing individual units based on address or other routing information contained in the units is "packet switching."

² In footnote 592 of the UNE Remand Order, the FCC noted that:

With packet switching, the packet switches place data units on inter-switch trunks only when there are active communications between network users. When users are not sending each other messages or packets, no bandwidth is used on the trunks between the packet switches.

1 **Q. WHAT OPTIONS DOES A CLEC HAVE FOR PURCHASING ACCESS TO THE**
2 **DISTRIBUTION PORTION OF THE LOOP?**

3 A. A CLEC may choose from the following three distribution loop options when requesting
4 unbundled packet switching:

- 5 • A CLEC can purchase the distribution subloop and is able to provide both voice and
6 data services to the end-user customer.
- 7 • Another CLEC (CLEC2) can purchase the entire UNE loop via UNE-P, and the CLEC
8 purchasing UPS (CLEC1) can purchase distribution from CLEC2.
- 9 • For loops over which Qwest provides voice service, a CLEC can line-share, but only
10 over the distribution subloop.

11 **Q. DOES QWEST HAVE AN OBLIGATION TO OFFER UNBUNDLED PACKET**
12 **SWITCHING?**

13 A. Yes, but only in a limited circumstance.

14 **Q. PLEASE DESCRIBE THE CIRCUMSTANCE IN WHICH QWEST HAS AN**
15 **OBLIGATION TO OFFER UNBUNDLED PACKET SWITCHING.**

16 A. Qwest is obligated to offer unbundled packet switching when the following four conditions
17 exist:

- 18 • Qwest has deployed digital loop carrier systems ("DLC");
- 19 • There are no spare copper loops available capable of supporting xDSL services;
- 20 • Qwest has placed a DSLAM for its own use in a remote Qwest premises but has not
21 permitted the CLEC to collocate its own DSLAM at the same remote Qwest premises;
22 and
- 23 • Qwest has deployed packet switching capability for its own use.

1 **Q. WHAT AUTHORITY DOES QWEST RELY UPON FOR ITS ASSERTION THAT**
2 **ACCESS TO UNBUNDLED PACKET SWITCHING IS REQUIRED ONLY IN A**
3 **LIMITED CIRCUMSTANCE?**

4 A. In its UNE Remand Order, the FCC found "one limited exception to [its] decision to decline
5 to unbundle packet switching."³ The FCC then laid out its criteria: where the ILEC has
6 deployed digital loop carrier (DLC) systems, no spare copper facilities are available, and the
7 incumbent has placed its DSLAM in a remote terminal. The FCC went on to find that the
8 ILEC will not be required to offer access to unbundled packet switching "if it permits a
9 requesting carrier to collocate its DSLAM in the incumbent's remote terminal, on the same
10 terms and conditions that apply to its own DSLAM."⁴

11 **Q. PLEASE DESCRIBE THE RATE ELEMENTS AND ASSOCIATED CHARGES**
12 **THAT QWEST PROPOSES FOR PACKET SWITCHING.**

13 A. Qwest proposes a recurring rate for the following rate elements:

14 (1) Unbundled Packet Switch Customer Channel. This rate element provides the costs of
15 the remotely deployed DSLAM and the virtual channel from the DSLAM to the CLEC
16 demarcation point in the central office containing the Qwest ATM switch at an
17 uncommitted bit rate. The CLEC demarcation point is between the Intermediate
18 Connecting Distribution Frame (ICDF) and the Digital Cross Connect (DSX).

³ UNE Remand Order ¶313.

⁴ Id.

1 (2) Remote DSLAM functionality at the remote terminal. In order to utilize this element,
2 the CLEC would need to provide its own feeder plant via its own facilities or an
3 unbundled sub-loop feeder element.

4 (3) Unbundled Packet Switch Interface Port at DS1 or DS3 level. This element provides the
5 port that the CLEC utilizes to connect to its own ATM switching network to its
6 customers who are served via the UPS customer channels.

7 Qwest proposes a non-recurring charge for the three distribution loop options I described
8 earlier in my testimony. The proposed recurring rates and non-recurring charges may be
9 found in Exhibit RHB-1, which is attached to Mr. Brigham's direct testimony.

10 **D. Remote Terminal Collocation**

11 **Q. PLEASE DESCRIBE REMOTE TERMINAL COLLOCATION.**

12 A. Remote Terminal Collocation provides space in available remote cabinets on a Standard
13 Mounting Unit (SMU) level. The space includes access to AC/DC power, heat dissipation
14 and access to Feeder Distribution Interface (FDI) terminations.

15 **Q. DOES QWEST PROPOSE A RECURRING RATE FOR REMOTE TERMINAL**
16 **COLLOCATION?**

17 A. Yes. The recurring rates include maintenance costs associated with the equipment, plus a
18 small portion of the power pedestal. The recurring FDI terminations rate includes the
19 maintenance costs associated with this equipment. The recurring rates are listed in Exhibit
20 RHB-1.

1 **Q. DOES QWEST PROPOSE A NONRECURRING RATE FOR REMOTE TERMINAL**
2 **COLLOCATION?**

3 A. Yes. Qwest proposes a nonrecurring Collocation Space rate for the cost of the cabinet
4 space, the cost of the cabinet and all of the work and materials associated with placement of
5 the cabinet and providing access to power. The nonrecurring Feeder Distribution Interface
6 (FDI) Terminations rate is per 25 pair and includes the costs associated with augmenting the
7 FDI to provide terminations. The nonrecurring rates are listed in Exhibit RHB-1.

8 **E. Customized Routing**

9 **Q. PLEASE DESCRIBE CUSTOMIZED ROUTING?**

10 A. Customized Routing permits a CLEC to designate a particular outgoing trunk that will carry
11 certain classes of traffic originating from the CLEC's end-users. Customized routing
12 enables the CLEC to direct particular classes of calls to specific outgoing trunks that will
13 permit the CLEC to provide its own interoffice facilities or select among other providers of
14 interoffice facilities, operator services and directory assistance. Customized routing is a
15 software function of a switch. Customized routing may be ordered as an application with
16 Resale or Unbundled Local Switching.

17 **Q. WHAT CHARGES DOES QWEST PROPOSE FOR CUSTOMIZED ROUTING?**

18 A. Custom Routing applications are unique to each CLEC; however, Qwest proposes that it
19 assess nonrecurring charges based on the elements listed below.

- 20 • Development of Custom Line Class Code – Directory Assistance or Operator Services
21 Routing Only,
22 • Line Class Code Installation per Switch – Directory Assistance or Operator Services

- 1 Routing Only and
2 • All Other Custom Routing.
3 References to the three Customized Routing nonrecurring charges are included in
4 Exhibit RHB-1.

5 **V. CONCLUSION**

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

7 **A. Yes.**

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF INVESTIGATION)
INTO QWEST CORPORATION'S)
COMPLIANCE WITH CERTAIN)
WHOLESALE PRICING REQUIREMENTS)
FOR UNBUNDLED NETWORK)
ELEMENTS AND RESALE DISCOUNTS)
STATE OF COLORADO)
COUNTY OF DENVER)

DOCKET NO. T-00000A-00-0194
Phase II A

AFFIDAVIT OF
KATHRYN MALONE

Kathryn Malone, of lawful age being first duly sworn, deposes and states:

1. My name is Kathryn Malone. I am Manager-Wholesale Markets of Qwest Corporation in Denver, Colorado. I have caused to be filed written testimony and exhibits in support of Qwest Corporation in Docket No. T-00000A-00-0194, Phase II A.
2. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Further affiant sayeth not.



SUBSCRIBED AND SWORN to before me this 23rd day of August, 2001.



Notary Public residing at
Denver, Colorado

My Commission Expires: Candace A. Mowers
My Commission Expires
April 13, 2002

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF INVESTIGATION)
INTO QWEST CORPORATION'S)
COMPLIANCE WITH CERTAIN)
WHOLESALE PRICING REQUIREMENTS)
FOR UNBUNDLED NETWORK)
ELEMENTS AND RESALE DISCOUNTS)
STATE OF COLORADO)
COUNTY OF DENVER)

DOCKET NO. T-00000A-00-0194
Phase II A

AFFIDAVIT OF
KATHRYN MALONE

Kathryn Malone, of lawful age being first duly sworn, deposes and states:

- 1. My name is Kathryn Malone. I am Manager-Wholesale Markets of Qwest Corporation in Denver, Colorado. I have caused to be filed written testimony and exhibits in support of Qwest Corporation in Docket No. T-00000A-00-0194, Phase II A.
- 2. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Further affiant sayeth not.

Kathryn Malone

SUBSCRIBED AND SWORN to before me this 23rd day of August, 2001.

Candace A. Mowers

Notary Public residing at
Denver, Colorado

My Commission Expires: Candace A. Mowers
My Commission Expires
April 13, 2002