BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Continued	**)**	
Costing and Pricing of Unbundled	**)**	
Elements, Transport and	**)**	**Docket No. UT-003013**
Termination, and Resale	**)**	**Part E**

DIRECT TESTIMONY

OF

RENEE ALBERSHEIM

QWEST CORPORATION

September 5, 2002

TABLE OF CONTENTS

I. IDENTIFICATION OF WITNESS

Q. PLEASE STATE YOUR NAME, EMPLOYER, POSITION, AND BUSINESS ADDRESS.

A. My name is Renée Albersheim. I am employed by Qwest Corporation (Qwest), as a Staff Advocate for Policy and Law. My business address is 930 15th St., 10th Floor, Denver, CO, 80202.

Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE AND EDUCATION.

A. I have been working in the Information Technologies Wholesale Systems organization since joining Qwest in October, 1999. Prior to becoming a Qwest employee, I worked for 15 years as a consultant on many systems development projects and in a variety of roles including the following: programmer and systems developer, systems architect, project manager, information center manager and software training consultant. During that time, I worked on many of Qwest's OSS as a consultant on systems development projects.

In addition to working full-time at Qwest, I recently completed course work at the University of Denver College of Law, earning a Juris Doctor. I passed the Colorado Bar Examination in October of 2001. I received a Master of Business Administration in Information Systems from the University of Colorado College of Business and Administration in 1985 and I received a Bachelor of Arts degree from the University of Colorado in 1983.

Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION BEFORE?

A. Yes, in Parts B and D of this docket.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. As requested by this Commission,[1] the purpose of my testimony is to describe and explain the software development costs incurred by Qwest during 2000 and 2001 for the purpose of providing Competitive Local Exchange Carriers (CLECs) with access to Qwest's OSS.

II. LEGAL REQUIREMENTS REGARDING GENERAL OSS

Q. WHAT DID THIS COMMISSION REQUEST WITH REGARD TO OSS COSTS?

A. In the Twenty-Sixth Supplemental Order in this docket, the commission requested that Qwest provide an update of transition costs through 2001.[2] This testimony and attached exhibits detail the actual transition costs incurred by Qwest in 2000 and 2001.

Q. WHAT ARE THE FEDERAL REQUIREMENTS REGARDING OPERATIONS SUPPORT SYSTEMS AND ELECTRONIC INTERFACES?

A. The Telecommunications Act of 1996 requires Incumbent Local Exchange Carriers (ILECs), such as Qwest, to unbundle network elements and provide CLECs access to

[1] See *In the Matter of Continued Costing and Pricing of Unbundled Network Elements, Transport, and Termination*, Docket No. UT-003013, Twenty-Sixth Supplemental Order; Part D Prehearing Conference Order, October 19, 2001.

[2] Qwest has referred to these costs as startup costs. This commission uses the term transition costs. For the sake of clarity, the term transition costs will be used here.

these unbundled network elements (UNEs).[3] In its First Report and Order,[4] the Federal Communications Commission (FCC) identified OSS as a UNE, and required Qwest to unbundle its OSS and provide electronic interfaces to support pre-ordering, ordering and provisioning, maintenance and repair, and billing for resold products and unbundled elements. In order to meet the FCC's requirements, Qwest had to change its OSS to support a multi-carrier environment, and the introduction of unbundled elements and resale products. The Telecommunications Act[5] and the FCC[6] recognize that providing CLECs access to ILEC OSS comes at a cost, and they authorize ILECs to recover the reasonable cost of making their OSS available to CLECs.

III. OVERVIEW OF OSS

Q. PLEASE REVIEW OPERATIONAL SUPPORT SYSTEMS.

A. Qwest uses a variety of computer systems to support the operations of its telecommunications business. An operational support system is a computer system that does not directly provide telecommunications service to customers, but supports employees performing "operational" duties, such as issuing service orders, testing trunks, and maintaining switching systems. These operational support systems are

[3] *Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 151 et seq., § 252, (Telecommunications Act).*

[4] *See In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, and In the Matter of Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket No. 95-185, ¶ 516 (rel. Aug. 8, 1996), (FCC First Report and Order).*

[5] *Telecommunications Act § 252(d).*

[6] The FCC addressed the ILECs' authorization to recover costs in the Line Sharing Order. *See In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, and Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, ¶ 144 (rel. Dec. 9, 1999), (Line Sharing Order).*

specialized; each performs different functions. Certain operational support systems allow for the ordering of products and services for customers, and others record and process trouble tickets. There are many other OSS that provide a wide variety of other functions.

Q. WHAT PURPOSES DO OPERATIONAL SUPPORT SYSTEMS SERVE IN CONNECTION WITH CLEC ORDERS?

A. CLECs use OSS to obtain products and services from Qwest and other incumbent local exchange carriers (ILECs). OSS are used to process orders that CLECs submit for resold products and unbundled network elements. CLECs typically submit these orders in the form of local service requests (LSRs) and access service requests (ASRs) that enter Qwest's OSS, are converted into service orders, and are processed through downstream systems. The downstream systems use the information on the service orders to perform the provisioning functions. Once the customer has service, information about that customer can be found on a customer service record. That information is necessary for the billing and repair functions provided by Qwest's OSS.

Q. WHAT IS MEANT BY OPERATIONAL SUPPORT SYSTEMS ELECTRONIC INTERFACES?

A. Electronic interfaces facilitate the exchange of information between the OSS of a CLEC and those of Qwest. An interface allows a CLEC to submit pre-order and order transactions to Qwest electronically. The interface also permits the electronic exchange of other information between CLECs and Qwest, including information

about products and services, installation timelines, the characteristics of facilities, and the completion of orders.

Q. WHAT IS IMA?

A. "IMA" or "Interconnect Mediated Access" is a real-time electronic interface offered by Qwest for the exchange of information relating to pre-ordering, ordering and provisioning of resale service and unbundled network elements. Qwest built and offers a human-to-computer electronic interface, IMA-GUI (Interconnect Mediated Access – Graphical User Interface), and a computer-to-computer electronic interface, IMA-EDI (Electronic Data Interchange).[7] Both interfaces are used for electronic pre-ordering, ordering, and provisioning of resale and line-side unbundled network elements (UNEs). These interfaces allow the CLEC to submit pre-order and order transactions electronically and allow Qwest to send confirming information back to the CLEC electronically.

Q. WHAT IS AN LSR?

A. An LSR, or Local Service Request, is the national standard form that CLECs use to order certain products and services from ILECs.[8]

Q. PLEASE DESCRIBE THE TYPES OF INFORMATION THAT QWEST AND CLECS ARE LIKELY TO EXCHANGE THROUGH ELECTRONIC INTERFACES USING AN LSR.

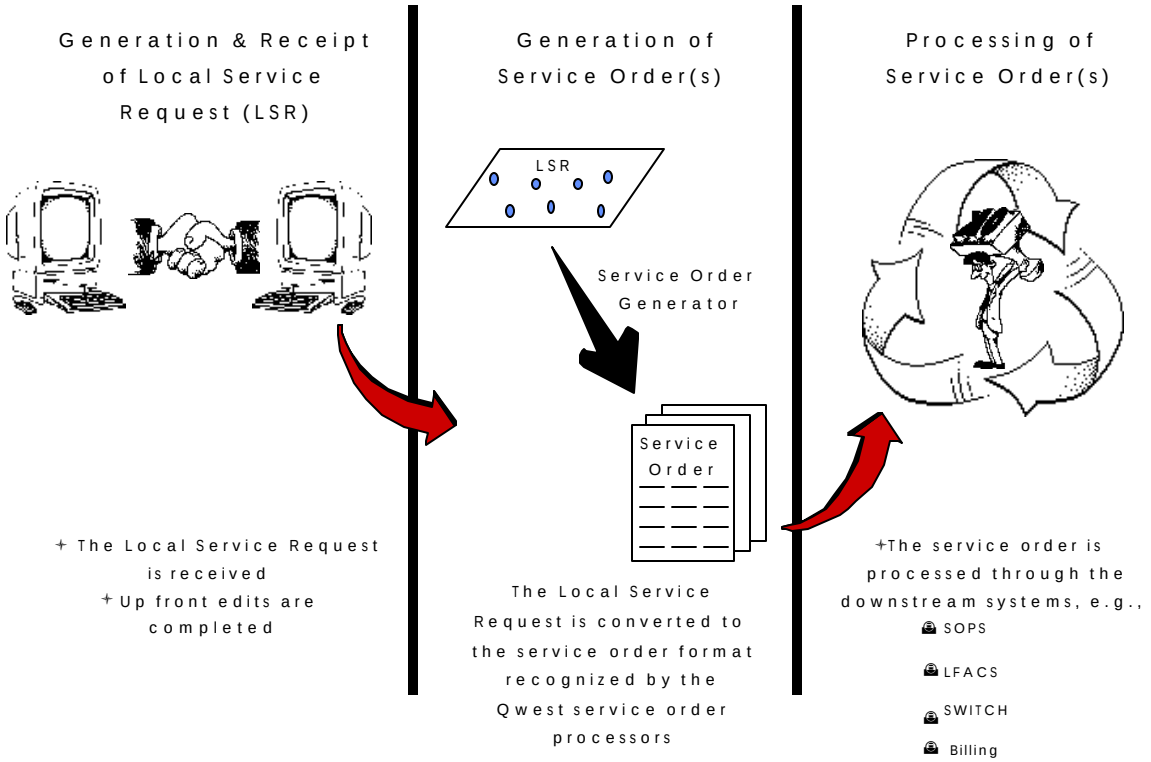
[7] When a CLEC develops an EDI interface it is usually intended to work with their own in-house GUI application.

[8] The Order Billing Forum (OBF) is a national telecommunications committee of the Alliance of Telecommunications Industry Solutions (ATIS) with members from various telecommunications companies. The OBF sets the standards for exchange of order and billing information between companies. An LSR is a form based on the Local Service Ordering Guidelines (LSOG) which are established by the OBF.

A. In addition to the general information that CLECs must provide when they submit an LSR, CLECs must identify the element(s) ordered or the resale service requested, provide information identifying the specific customer for whom the order is sought, and supply appropriate information, if necessary, about where the CLEC's equipment will connect with Qwest's equipment.

Q. PLEASE DESCRIBE HOW AN LSR IS PROCESSED.

A. When a CLEC submits an LSR, Qwest must process the LSR through all of the systems necessary to deliver a service to a customer. The service ordering process is the component that converts the CLEC's LSR into the service order format required to process the request through Qwest's service order systems. The ordering process is comprised of three major functions depicted in the following picture and explained below.



1) Local Service Request Generation and Receipt. A CLEC creates an LSR, in a format defined by the OBF (Ordering and Billing Forum), and transmits it to Qwest either via an electronic interface or facsimile.

2) Service Order Generation. Qwest's OSS understand information contained on service orders. Therefore, Qwest must take the information from the LSR and create one or more service orders. A service order contains product codes (USOCs - Universal Service Order Codes) and Field Identifiers (FIDs). FIDs are the additional information required to provide a specific product.

3) Service Order Processing. Service orders are processed by many downstream systems resulting in the provisioning of service, with the equipment inventoried, and customer accounts updated.

Q. WHAT HAPPENS AFTER A CLEC SUBMITS AN LSR?

A. After an LSR is submitted to Qwest, it is processed through the IMA gateway. The service order processors (SOPs), and other downstream installation OSS, are critical components of the process that play a role after pre-ordering/ordering functions, and before the later activities of provisioning, maintenance and repair, and billing. All service orders, whether generated by CLECs or by Qwest retail operations are processed by the same SOPs. The SOPs receive Qwest service orders from several sources and, in turn, communicates with the Service Order Activation and Control System (SOAC) that manages the service order process with respect to the specialized systems that design and activate network-based services, assign facilities, maintain central office inventory, and manage customer account information. In doing so, SOAC directs each service order through all steps necessary to complete the order

and provision the service. Exhibit RA-7 provides a diagram of the downstream provisioning system flows for designed and non-designed services, after they pass through the SOPs.

Q. IS IMA THE ONLY ELECTRONIC INTERFACE THAT CLECS CAN USE TO ACCESS QWEST'S OPERATIONAL SUPPORT SYSTEMS?

A. No. Some Qwest products are ordered using an access service request (ASR). ASRs are used to order Access and Local Network Interconnection services. ASRs can be submitted electronically using EXACT-PC (Exchange Access Control and Tracking for Personal Computers), an electronic interface created by Telcordia. Some of the products ordered using ASRs include Local Interconnect Service products and Unbundled Dedicated Interoffice Transport. In addition, Qwest offers a number of other electronic interfaces for such functions as repair, billing, and to reference information. These interfaces include, among others, Held Escalated & Expedited Tool (HEET), Customer Electronic Maintenance and Repair (CEMR), Raw Loop Data (RLD), Street Address Guide Area (SAGA) and Facility Availability Matrix (FAM).

Q. WERE MODIFICATIONS NECESSARY FOR THE EXISTING OPERATIONAL SUPPORT SYSTEMS TO COMPLY WITH THE FCC REQUIREMENTS?

A. Yes. Certain OSS had to be modified to add data about CLECs and to add the functionality necessary to handle that data. For example, Qwest's SOPs, which are OSS, were designed to handle Qwest service orders. Now, service orders must be properly associated with a CLEC. This requires a unique code. The SOPs had to be

modified to handle this new data element. Another example is the creation of new universal service order codes (USOCs) and field identifiers (FIDs) to support unbundled elements and resale products and their placement into the service order processing and billing production environments. USOCs and FIDs are codes that are put on service orders in order to allow systems to provision and bill for products and services.

Q. DOES QWEST CONSIDER THE DEVELOPMENT OF OPERATIONAL SUPPORT SYSTEMS FOR CLECS COMPLETE?

A. No. Qwest continues to make improvements and enhancements to its interfaces and downstream systems. Some enhancements will be prompted by advances in technology, and others by the needs of Qwest's customers, including CLECs. In fact, CLECs have the ability to communicate their needs to Qwest via the Change Management Process (CMP). The CMP also allows CLECs to prioritize the enhancements Qwest makes to its OSS on their behalf.

Q. DOES QWEST ENDEAVOR TO PERFORM SYSTEMS DEVELOPMENT ACTIVITIES INTERNALLY?

A. Yes. Whenever possible, Qwest uses the resources of the Information Technologies division to conduct systems development for the corporation. Every OSS project is evaluated by the Qwest Information Technologies engineering staff to determine whether or not Qwest can perform the work internally. The engineering staff is made up of systems engineers, system architects, and software developers. Qwest's goal is to perform as much systems development work as possible using Qwest's own in-house resources, and using Qwest employees and/or leased labor, under the direct

management of Qwest Information Technologies, as this allows Qwest to maintain control of the software, and gives Qwest more flexibility in design and execution of systems enhancements.

Q. DID QWEST HAVE TO PURCHASE ANY SYSTEMS DEVELOPMENT WORK FROM OUTSIDE VENDORS IN 2000 OR 2001?

A. Yes. In some cases, Qwest requires changes to software that exists within Qwest's downstream systems that is owned by outside vendors. The source code for that software is under the control of those vendors, and cannot be changed by Qwest. If Qwest determines that the software can be cost-effectively replaced by internally developed software, that replacement will take place. But more often than not the replacement of downstream applications is either cost-prohibitive or not possible within the time allotted to complete the work. If the changes Qwest requires exist in a new release of the software, Qwest will purchase the release under the terms of its contract with the vendor. When custom changes must be made to such vendor-owned software, that vendor has control, and generally, only that vendor may make such changes. Such custom changes are not commonly required by Qwest.

Q. WHAT PERCENTAGE OF THE TOTAL OSS TRANSITION COSTS REPORTED HERE CAN BE ATTRIBUTED TO VENDOR-PURCHASED SOFTWARE DEVELOPMENT?

A. In 2000, .04% or $28,983 is attributable to vendor-purchased software development. In 2001, 2.23%, or $6,056,600 is attributable to vendor-purchased software development. Confidential Exhibit RA-C8 provides the detail of these vendor-purchased software development costs.

Q. DO THE CLECS BENEFIT FROM THE ENHANCEMENTS TO OPERATIONAL SUPPORT SYSTEMS YOU HAVE DESCRIBED?

A. Yes. All the modifications to OSS described in this testimony were made to enable CLECs to resell products, access unbundled network elements, and interconnect with Qwest's telecommunications services. But for the requirement of the FCC, these modifications would not have been necessary. For example, the new USOCs and FIDs Qwest has created for the order entry, provisioning and billing systems enable CLECs to bill these products to their customers at a price of the CLECs' choice. Also, new reporting functionality had to be created so that Qwest can provide daily reports showing the customers that each CLEC has acquired. Another example of a modification for the CLECs' benefit involves expanding the capacity of certain OSS. In order to handle the increased traffic caused by CLEC transactions, the capacity of many systems had to be increased. This action allows for the processing of CLEC transactions, which facilitate their business functions.

Q. DOES QWEST BENEFIT FROM THE ENHANCEMENTS TO ITS OSS MADE ON BEHALF OF CLECS?

A. No. I would first like to note that the issue of whether Qwest benefits is irrelevant to the question of how costs should properly be recovered. On this point, the FCC's rules, and this Commission's orders, are clear that cost recovery for these expenditures is from the cost causers, i.e., the CLECs. However, Qwest anticipates that some parties may make the argument that these expenditures benefit Qwest and that Qwest should therefore assume some of the costs. This argument is without merit. Qwest has been serving its customers without the enhanced functionality described earlier. The modifications do not add any efficiencies or cost savings to

Qwest's business. On the contrary, the additional functionality and the additional data and systems infrastructure make increased demands on Qwest's resources and require Qwest to operate and maintain this more complex systems environment.

IV. OSS TRANSITION PROJECTS FOR 2000 AND 2001

Q. PLEASE DESCRIBE THE OSS TRANSITION WORK UNDERTAKEN BY QWEST ON BEHALF OF CLECS IN 2000 AND 2001.

A. Qwest undertook 31 projects in 2000 to fulfill its obligations under the Act and the FCC's rules. Confidential Exhibit RA-C9 contains a list of the projects, their project codes, and the costs associated with each project. Qwest undertook 32 projects in 2001 to fulfill its obligations under the Act and the FCC's rules. Confidential Exhibit RA-C10 contains a list of the projects, their project codes, and the costs associated with each project. Confidential Exhibit RA-C11 contains detailed descriptions of the work assigned to each project in 2000. Confidential Exhibit RA-C12 contains detailed descriptions of the work assigned to each project in 2001.

V. OSS TRANSITION COSTS FOR 2000 AND 2001

Q. WHAT ARE OSS TRANSITION COSTS?

A. OSS Transition costs (also known as startup costs) are the expense and capital costs incurred by Qwest to perform the OSS transition projects described above. Expense costs include salaries, benefits and overhead for employees who identify business needs, define systems to support those needs, project manage or design the systems, as well as code and test them. Expense costs also include charges for the purchase of

software licenses and costs associated with other development/modification-related tasks. Capital costs include the cost of computer equipment, for example, hardware, computer software, telecommunications links, and/or labor expenses incurred in setup of this hardware. Both expense and capital start-up costs apply to the projects described in my testimony and exhibits.

Q. HOW MUCH HAS QWEST ACTUALLY SPENT IN START-UP COSTS FOR THE ELECTRONIC INTERFACES AND OPERATIONAL SUPPORT SYSTEMS WORK IN 2000 AND 2001?

A. For the OSS transition projects undertaken in 2000, Qwest incurred $71,601,300 in expenses and $3,454,770 in capital, for a total cost of $75,056,070. Exhibit RA-9 contains the detail associated with these costs. For the OSS transition projects undertaken in 2001, Qwest incurred $86,533,130 in expenses and $6,056,600 in capital, for a total cost of $92,589,730. Exhibit RA-10 contains the detail associated with these costs. The total OSS transition cost to Qwest for the two years combined is $167,645,800.

Q. HOW DOES QWEST TRACK THE ACTUAL COST OF A PROJECT?

A. Once a project is initiated, it is assigned a project code, and is entered into the Business Management System (BMS), along with projected expenses. All expenses related to this project will then be fed into BMS. All persons who work on the project enter their time into a time reporting system known as EZWARP. They enter their time by project code. This information is then transmitted from EZWARP into BMS through a monthly batch process. All expenditures including capital and equipment purchases are assigned by project code as well, and this too is entered into BMS. In

this way, it is possible to keep track of actual costs for all activities by project, and to track actual performance against each budget.

Q. CAN YOU PROVIDE AN EXAMPLE OF HOW THE COSTS FOR A GIVEN PROJECT ARE TRACKED?

A. Yes. Qwest completed and installed IMA Release 8.0 in 2001.[9] All of the work performed for this specific release of IMA was tracked in project code 15946ZZ. All direct, labor, and capital expenses were recorded in BMS for this project. The data in BMS then served as input to the cost study presented in this docket by Theresa K. Million.

VI. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. At the request of this commission, I have provided detailed information regarding the OSS transition costs incurred by Qwest on behalf of CLECs in the years 2000 and 2001. Qwest undertook 63 projects in order to provide CLECs with access to Qwest's OSS for the purposes of pre-ordering, ordering, provisioning, maintenance and repair, and billing. The cost to Qwest for the work done on these projects was at $167,645,800.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

[9] A detailed description of the systems development work associated with IMA Release 8.0 can be found in Confidential Exhibit RA-C8.