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# Report on Qwest Performance Measure Data Reconciliation for Arizona

# I. Introduction

The Liberty Consulting Group *(Liberty)* conducted an audit of Qwest's performance measures for the ROC, and issued the final report from that audit on September 25, 2001. As an extension to the audit, and through its Change Request process, the ROC requested that Liberty conduct a "data validation to resolve any debates concerning the accuracy of performance data emanating from particular ROC PIDs." (ROC Change Request #20.) Certain CLECs have expressed concerns about the accuracy of Qwest's reported performance results as they relate to service that they have been receiving. The ROC decided to conduct this data reconciliation work in order to test those concerns. Liberty's performance measures audit applied to all of the ROC states with the exception of Arizona. Nevertheless, Liberty was requested to include Arizona in the scope of its data reconciliation work. This report provides the results of Liberty's review of Arizona data.

Liberty conducted multiple discussions with state commission personnel, Qwest, and the CLECs, in order to secure their comments on the scope and objectives for this test. Liberty has determined that the objective for the data reconciliation process solicited by the ROC should be to answer the following question:

> **Does any of the information provided by the participating CLECs demonstrate inaccuracy in Qwest's reporting of performance results under the measures defined in the PID?**

The question presented is an important, but narrow one. It allowed the exclusion of activities that would have substantially expanded the scope of this test. For example, Liberty was not required to determine whether CLECs could reproduce Qwest's performance results with their own information, or what changes would be required to allow such recreation. There were also situations in which Liberty found that Qwest and a CLEC interpreted requirements differently or had different understandings of how interactions with Qwest or the information resulting from them should be treated. In those cases, Liberty did not seek to determine who was right and who was wrong, or who reflected the better practice. Instead, Liberty's goal was to determine whether, in consideration of the requirements of the PID, Qwest's methods practices, or processes contained material error. Therefore, in the case of data discrepancies, Liberty required an affirmative showing of Qwest error or omission before issuing an exception or observation. However, in order to make clear the details of its examination, Liberty has reported the cases where it found the information provided by the parties to be inconclusive.

In its comments on CR #20, AT&T described what it thought should be the process for what has been referred to as "data reconciliation," as follows:

> *1. The CLEC identifies what it believes are discrepancies between performance results it has produced and the performance results that Qwest has produced. The CLEC should identify the particular performance measurement in question and the evidence that lead the CLEC to conclude that a discrepancy exists.*

*2. The auditor takes the CLECs information and confirms the existence of the discrepancy.*

*3. After confirming the discrepancy, the auditor determines and identifies the source of the discrepancy.*

*4. If the source of the discrepancy is the CLEC, the auditor will share its findings at a high level with the TAG. The specific details of the discrepancy shall be shared by the auditor privately with the specific CLEC.*

*5. If the source of a discrepancy is Qwest and that discrepancy points to some problem with Qwest's raw data, the auditor shall create an Exception/Observation per the Exception and Observation process used in the ROC OSS test. In the Exception/Observation, the auditor will make recommendations as to whether the identified deficiency is likely to affect multiple services and/or multiple CLECs. The auditor will also identify what it believes is the period of time that Qwest may have been producing questionable performance results.*

*6. After the Exception/Observation has been created, it should follow the normal process for closure as would any other Exception or Observation.*

In general, the process described by AT&T reflected how the data reconciliation effort proceeded.

Three CLECs, Covad, WorldCom, and AT&T, chose to participate in data reconciliation. The participating CLECs had identified numerous discrepancies. However, some CLECs did not produce sufficient evidence to demonstrate that claimed discrepancies actually existed. In connection with this report, Liberty has separately supplied specific information about the CLECs' sources of discrepancies, as well as proprietary information concerning specific records and volumes. Liberty sought to prepare this report to inform the interested participants about the test and its results, without revealing confidential information. For example, the report generally refers to percentages of total orders instead of the actual number of orders. The specific performance measures and products that the participating CLECs wanted included in the data reconciliation, being widely known, were therefore not considered proprietary.

As an indirect result of its data reconciliation work for the state of Arizona, Liberty will be issuing one Exception Report on performance measure OP-15. The discovery of the problem described below and in the forthcoming Exception Report did not result from information provided by CLECs, but rather was the result of Liberty's review of Qwest's information during data reconciliation.

Qwest, the CLECs, and Liberty spent significant time and effort resolving the specific scope of the performance measures to be included in data reconciliation. It took considerable added effort to digest and process the information provided by CLECs and match it with data provided by Qwest. Liberty began this data reconciliation test with a significantly greater familiarity with the structure and nature of the Qwest data, with which Liberty worked extensively during earlier audit activities. Gaining a similar kind of familiarity with CLEC data structure and content

formed a more significant than expected part of this test. During the course of its data reconciliation test work, Liberty was able to match a significant portion of the apparently contradictory data presented by CLECs and Qwest. This success in data matching was important, but the discrepancies remained very large even after it was completed.

This first report by Liberty on data reconciliation addresses only Arizona data. A test of data from other states is within the current scope of the work. Liberty considers important aspects of the results of Liberty's review for Arizona to apply to other states. Liberty provides recommendations in this report about how data reconciliation testing might best proceed in other states, given such applicability.

On November 19, 2001, Liberty issued a status report to each of the CLECs and Qwest on the Arizona data reconciliation. Liberty reviewed and considered comments on the limited analysis results that were included in those status reports in reaching the results presented in this report.

# II. Overall Summary of Findings

This report presents more detailed, non-confidential results in later sections that are organized by CLEC. This section provides Liberty's overall conclusions, which have been formed on the basis of completing the first of the states included in the current scope of the reconciliation effort.

**Given the way that CLECs captured data and accounted for information related to Qwest's wholesale performance measures, concerns about the accuracy of Qwest reporting are understandable.**

It is understandable that CLECs record data relevant to performance measure results in ways that best suit their own operational and management needs and their information system capabilities. They have not had substantial reason to ensure that their recording and processing of data coincide exactly with that reported by Qwest, although the potential for adoption of the QPAP in the future will make commonality much more important. Detailed data matching concerns, such as which records are included and excluded, what time-of-day clock to use, and the like, simply have not been matters of immediate concern heretofore.

In some cases the CLECs do not have the systems required to track performance measure results at the level of detail required of Qwest, which must take measurements in strict accord with the requirements of the PID's approximately 700 sub-measures. Some CLECs even use multiple and different data management systems to support their own internal operations. For the most part, Liberty found that the participating CLECs' personnel are not familiar with all of the details of how performance data are captured, processed, and ultimately reported by Qwest.

**The information provided by CLECs for the state of Arizona did not demonstrate that Qwest reports of its performance are materially inaccurate.**

In the course of its data reconciliation work to date, Liberty found that Qwest did make some errors that affected performance results. However, those errors were generally either (a) of the kind and at levels to be expected at the front end of the performance measurement process, where people must manually enter vast amounts of information, or (b) appeared to be honest errors in judgment. The amount of these errors in relation to the total amount of information required for the performance measures did not exceed what Liberty considers to be expected levels, even under a carefully operated set of measurement activities. Moreover, there was no evidence that Qwest purposely took steps to make its performance figures appear better than it actually was. With the exception of a programming problem associated with measure OP-15 and a failure to report a group of Firm Order Confirmations in June 2001, the errors were not systemic, nor did they apply to a significant percentage of the performance measure results.

**The results of Liberty's Arizona data reconciliation work should influence decisions about the scope and methods of the remaining data reconciliation work.**

Liberty has identified what it considers to be generically applicable reasons for large portions of the discrepancies between Qwest and CLEC performance data. Future data reconciliation work would be expedited if it does not have to examine for other states what Liberty expects to be very substantial amounts of data whose discrepancies have the same underlying causes. The

dedication of resources and the level of detail of information that is required on the part of CLECs to participate meaningfully in data reconciliation is certainly much better understood now that the Arizona work has been undertaken. CLECs need to determine whether they can commit the resources and produce the information required for the scope of work planned. Finally, there may be differences in the ways that Qwest performs in various parts of its region. Future reconciliation work should attempt to focus on those performance aspects that could result in differences from the Arizona findings.

# III. Results of Data Reconciliation – AT&T

## A. Introduction

After some discussion between the parties, it was ultimately determined that the following performance measures were to be reconciled:

- The denominator of PO-5A, B, and C combined for unbundled loops (UBL).
- The denominator of PO-5D for Local Interconnection Service (LIS) trunks.
- The numerator and denominator of OP-3D and E combined for unbundled loops and for LIS Trunks.
- The numerator and denominator of OP-4D and E combined for unbundled loops and for LIS Trunks.
- The numerator and denominator of OP-6A and OP-6B for unbundled loops and for LIS Trunks.
- The numerator and denominator of OP-13A and OP-13B for unbundled loops.
- The numerator and denominator of OP-15A and OP-15B for LIS Trunks.

For unbundled loops, the period to be reconciled is April 2001 through June 2001.

The LIS Trunks reconciliation period was from January 2001 through June 2001. Qwest stated, however, that it did not report CLEC-specific state results for LIS Trunks for OP-15 for January or February; therefore, Liberty could not reconcile data for those months. In addition, Qwest was unable to provide the data necessary to reconcile OP-15 for LIS Trunks for May; therefore, data for that month could not be reconciled.

In addition, Liberty was to compare the unbundled loop trouble tickets provided by AT&T with the trouble tickets provided by Qwest. Where Liberty had data about a trouble ticket from both parties, Liberty was to compare the repair intervals reported by the two parties. In addition, Liberty was to analyze situations identified by AT&T where AT&T found one trouble ticket, but where more than one Qwest trouble ticket applied.

Liberty received data both from Qwest and from AT&T. Liberty initially received from Qwest: (a) data files containing information on the records actually used in the measurement, and (b) those records that Qwest had excluded. Qwest provided one file for each state/product/measure combination. These data allowed Liberty to determine the records that Qwest believed should be included in each measure. Liberty could also replicate the numerators and denominators in Qwest's reported performance results.

AT&T initially provided for each state files by product containing the records it believed were relevant. AT&T also provided hardcopies of the source documents for its records (*i.e.*, UBL service orders, LIS trunk service orders, and trouble tickets). Liberty needed to know those records that AT&T believed should be included in the numerators and denominators of each measure so that Liberty could reconcile the sets of data from the two parties. Liberty therefore

requested that AT&T provide this information. AT&T did so, and provided the actual data files used to calculate the performance measure results it believed to be correct.

After the scope of the reconciliation was agreed upon and after Liberty received comparable data from both parties, Liberty began its analysis by matching the parties' data files. Liberty identified records where the parties agreed (so that no reconciliation was necessary), cases where one party included a record but the other party did not, and records where both parties included the record in the denominator, but disagreed about the numerator.

Liberty then analyzed the discrepant records. If Liberty could reach a decision about how the record should be treated by using the available information, Liberty did so. If more information was required, Liberty submitted data requests to one or both parties (as agreed among the parties, Liberty copied each party on the data requests submitted to the other). Liberty was sometimes able to use the information in the analyses provided by Qwest in lieu of sending data requests to Qwest.

For each record analyzed, Liberty reached one of six conclusions, as follows:

1. Qwest and AT&T agreed on the treatment of the record
2. Qwest incorrectly included, excluded, or otherwise treated the record in the measure
3. Qwest's reporting of the record was correct
4. AT&T did not provide any information to demonstrate that Qwest's treatment of the record was incorrect
5. There was no actual discrepancy between the parties, (*e.g.*, cases where some analysis is required to demonstrate that there is no discrepancy)
6. The information available on the record was inconclusive or conflicting in a way that prevented reconciliation.

## B. Reconciliation Issues

There was little apparent agreement between the companies at the initial stages of the reconciliation. For example, for LIS Trunks, AT&T and Qwest agreed on both the numerator and denominator for OP-3 for only 9 percent of the orders under consideration. OP-4, which has an interval numerator rather than a miss/met numerator like OP-3, showed even less agreement (6 percent). After some investigation and analysis, Liberty found, by determining that some records fell into category #5 above, that there was only a slightly higher level of agreement. However, Liberty determined that only a few issues that accounted for much of the discrepancy.

### Service Order Completion Date

For LIS Trunks, Liberty found that Qwest and AT&T have different operational definitions of when an order is considered to be completed. In most instances, AT&T views the order as

completed earlier than Qwest does. AT&T believes the order is completed when a first test is done, but Qwest does not consider it completed until an additional test is completed as well. For many orders a due date is established; i.e., the date by which both parties expect to complete the order. When a test is successfully completed on that due date, AT&T considers the order completed. AT&T therefore includes the order in the relevant performance measures as completed on the date of that test. However, Qwest believes another test is necessary; *i.e.*, a test for which AT&T is often not ready on the due date. Accordingly, Qwest classifies the order completion as having been missed for customer reasons, and therefore excludes it from many measure results. This disagreement about the meaning of order completion accounts for significant numbers of discrepancies between the parties. For example, it accounts for a third of the LIS trunk denominator discrepancies between the parties for OP-3 for the months of January to June.

Both AT&T and Qwest have reasonable justifications for their definitions of order completion. Their difference is an operational one, which cannot be resolved in either party's favor by referring to the language of the PID. Liberty did not consider this test as including a Liberty determination of which company applied the better or most correct operational interpretation. Rather, Liberty sought to determine whether Qwest's approach was out of conformity with the PID. Liberty concluded that Qwest's definition and use of a service order completion date could not be judged to be out of conformance with the PID.

The parties' differing interpretations of the term *completion date* appears to be limited to LIS trunk orders. Liberty did not find that this difference affected results for loops. However, it is possible that a similar difference could cause differing results for other products.

### Data Processing Error

Liberty's analysis of LIS Trunks disclosed that many orders being reported in OP-15 did not appear to be Qwest "misses," even according to Qwest's own data. The cause of the problem was a data transfer error. The Detailed Data Set that Qwest uses for the OP-15 measure incorporates data from the Integrated Data Repository (IDR) Pending data source. One extremely important piece of this data is the miss code, which determines whether the order will be included in OP-15, and whether it will be included in OP-15A or OP-15B. LIS Trunks constitute a designed service; therefore, they have three-digit miss codes. Misses for customer reasons begin with the letter "C." For example, C01 is the miss code for the category of "Customer Not Ready." During the data transfer step, the third digit of the miss code was often (although not always) being truncated. The Wholesale Regulatory Reporting program looks up the code in a miss code table in order to determine how the order should be handled. If it fails to find the code, it establishes Qwest as the default cause of the miss. Therefore, all of the LIS trunk orders showing two digit miss codes were being reported as Qwest misses, even though not all of them were. Qwest has stated that it knew about the problem, and has already fixed it, but the performance reports for the months being reconciled, and the data provided by Qwest that generated them, contained this error. Liberty will issue an Exception Report addressing this issue. The problem occurred in about half of the LIS Trunk service orders.

This problem could exist (for the period being reconciled) for designed services other than LIS Trunks. Accordingly, an investigation would be appropriate to determine exactly the full range of products affected, and the months involved.

### Use of Reference Date

Several performance measures use the number of orders completed in the reporting period as the denominator. Qwest's service order database does not contain a real-time picture of service order activity. Liberty's review during the performance measures audit showed that records are updated close to the time of the activity involved, such as completion; however, there is usually a lag of a couple of days. If the performance measures used only the report month, Qwest could miss a substantial amount of activity. Qwest solved this potential problem by calculating measures for records in which the database reference date is the reporting month. This method helps ensure that all records are reported, but may cause orders that are completed in one month to be reported in a later calendar month. Liberty does not consider this problem to be a material one, because:

- Every order is eventually accounted for
- The process is well-defined and applied consistently
- The overall impact (including an order in a future month's performance report) is minimal.

However, a CLEC would not know the reference date; it would only know the actual date of completion. The reference date matter accounted for about 11 percent of the LIS Trunk discrepancies and for nearly 6 percent of the discrepancies between AT&T and Qwest for OP-3, unbundled loops, for April 2001.

This reference date issue affects all products.

### Changed Due Dates

Qwest and AT&T have differing views on how a service order for unbundled loops should be treated in performance measures in those cases where AT&T has changed the due date on the order. In every case where AT&T changed the due date after the order reached a certain stage in the process, Qwest treated the order as ineligible for inclusion in the OP measures. AT&T, on the other hand, only excluded an order if it changed the due date on the due date itself; it regarded these orders to be the ones whose due dates were missed due to for AT&T-caused reasons. If AT&T changed the due date at any earlier time, it did not exclude the order (at least for a reason related to the changed due date). This difference accounted for about a quarter of the OP-3 unbundled loop discrepancies and for a smaller percentage of the LIS Trunk discrepancies between Qwest and AT&T.

This issue is not applicable under the current Qwest method for calculating performance measures. Version 4.0 of the ROC PID changed the method of accounting for customer-requested changes in the due date. Qwest now reports those orders against an "Applicable Due Date," instead of the original due date. In earlier versions of the PID, Qwest measured against the original due date and it judged as ineligible orders for which the customer requested a later due date. The earlier PID did not explicitly allow this exclusion; its language said "customer requested a later due date when the technician arrived to do the work." Qwest interpreted the exclusion more liberally than this phrasing would allow. While it may seem unrealistic to hold

Qwest to an original due date in every case that its customer requested a later one, Qwest was in violation of the precise language that had been contained in the PID.

### Missed Due Dates

Qwest and AT&T have differing views on which orders should be excluded from OP-3, OP-4, and OP-6 on the grounds of customer-caused missed due dates. Qwest excludes every order that has a missed due date for any customer (i.e., AT&T) reason. AT&T states that it attempts to exclude only those orders that have missed due dates for the specific reasons stated in the PID. Unlike the changed due date issue discussed above, this distinction did not constitute a major source of the discrepancies between the parties.

### Firm Order Confirmations (FOCs)

Several issues caused a vast difference between what Qwest reported and what AT&T thought should be reported. First, AT&T counted multiple FOCs for PONs that included several orders and only one FOC. Second, AT&T did not capture FOCs for disconnect orders, cancelled orders, and change orders. Finally, for the month of June 2001, Qwest failed to report the first order of FOCs that contained multiple orders. Qwest had already reported this problem in its October 5, 2001, summary of notes to the regional results report. Liberty is still considering whether that notification was sufficient.

These matters accounted for practically all of the discrepancies between AT&T and Qwest in the PO-5 denominator for unbundled loops. Qwest's and AT&T's initial submittal showed that only 11 percent of their records matched. Qwest's reporting problem in June caused 5 percent of the total records and 11 percent of the records for June to be in error. It was not clear which company was in error for 8 percent of the records.

Liberty found vastly higher matching of records in the case of LIS Trunks. Qwest and AT&T at the outset agreed on the denominator in 70 percent of the cases. About 36 percent of the apparent discrepancies were ultimately not real discrepancies at all. Liberty found that Qwest had incorrectly reported on less than 3 percent of the records.

### Hot Cuts

OP-13A measures the percentage of loop hot cuts completed on time. This measure reflected considerable agreement between Qwest and AT&T, but even in this case, only 73 percent of the records initially agreed. Another 8 percent of those that did not match initially were found to be duplicates. Of the discrepancies that existed, Liberty found that 6 percent fell into the "inconclusive" category. These cases were instances where Qwest and AT&T disagreed on whether the cut was completed on time. The recorded start and stop times for the two companies varied. The place of most disagreement was the recorded start times for the cut, but even there most of the cases varied by less than one hour. There was no evident procedural or systemic reason that would support a conclusion that either company was routinely recording times earlier or later than the other was. In summary, while reported times varied, the information provided by AT&T did not show that Qwest was making any attempt to shorten the cut interval for the purpose of improving reported hot cut performance. In several cases, Qwest's reported interval was greater than the one recorded by AT&T. It appeared that AT&T might have considered the

cut to be a "miss" if the total elapsed time was greater than one hour. However, the PID actually allows two hours for cuts involving 16 or fewer lines. Liberty requested more detailed log information to support its recorded times in selected cases. Qwest did not provide a response in time for inclusion in this report.

## C. Reconciliation Results

Liberty has prepared spreadsheets showing the results of its analysis of the AT&T data. These documents contain information that is proprietary to AT&T; therefore, Liberty has made a very limited distribution of the spreadsheets. The following paragraphs provide a summary description of the results shown in greater detail in the spreadsheets.

For LIS Trunks and OP-3, Liberty found that Qwest and AT&T agreed on the treatment of 9 percent of the orders, that Qwest clearly treated the order correctly in 73 percent of the orders, that AT&T's information did not show that Qwest was incorrect in 12 percent of the orders, and that 6 percent of the orders demonstrated inconclusive results. For OP-4, the percentages were the same, except that the parties agreed on only 6 percent and the number of inconclusive orders was 9 percent.

For unbundled loops and OP-3, Qwest and AT&T agreed on the treatment of 64 percent of the orders. Liberty concluded that Qwest was in error on 1 percent of the total, that in 19 percent of the total Qwest was either clearly correct or AT&T's information did not show Qwest to be incorrect, that 11 percent of the orders fell into a category of not actually being a discrepancy, and that the results for 5 percent of the orders were inconclusive.

### Qwest Errors

In addition to the programming problem for OP-15 and the June 2001 incomplete reporting of FOCs for PO-5, the clear errors made by Qwest were minimal. Liberty found a small number of service orders for which Qwest incorrectly classified a customer-caused miss. It may be that some of the items that Liberty classified as inconclusive could have the same type of problem, as many of the items carried a Qwest-designated customer miss code.

## D. Trouble Tickets

Liberty's work scope included a review of AT&T's and Qwest's Arizona trouble ticket data for unbundled loop products for the April to June 2001 period. Liberty conducted this review to determine whether Qwest had correctly reported its performance measures, particularly MR-6 – Mean Time to Repair *(MTTR)*. Liberty received summary information in spreadsheet form from both parties, as well as a hard copy of many of the AT&T and Qwest trouble tickets.[1]

[1] In its spreadsheets, Qwest provided data including, among other things, trouble ticket number, product code, repair duration, and received date; there were no clear dates or start/stop times provided. AT&T provided, for each of its own trouble tickets, the corresponding Qwest trouble ticket number(s), the open and restore date and time of the Qwest tickets, and a short description of the problem and treatment by Qwest.

Liberty identified several issues in its preliminary analysis:

- There was a large discrepancy in the population of "relevant" trouble tickets provided by each party.
- In many cases, AT&T had logged more than one Qwest trouble ticket number in connection with a single AT&T repair request.
- In no case did the MTTR or repair duration recorded by each party match.

There was a significant disparity in the population of relevant Qwest trouble ticket numbers that each party provided. Approximately 60 percent of the Qwest ticket numbers in each party's data set matched; the balance did not appear in the other party's data. Liberty confined its analysis to those Qwest trouble ticket numbers found in both data sets.[2]

Roughly 15 percent of AT&T repair orders had multiple, *i.e.*, between two and six, Qwest ticket numbers associated with them. Two main reasons explain why Qwest assigned more than one ticket number to an AT&T repair order:

- The AT&T repair order included two or more different circuits, which were subsequently assigned separate Qwest trouble ticket numbers.
- There was more than one repair performed on the given circuits, and these repairs were performed on different days. Qwest typically opened and closed the original tickets and opened new ones for the later repairs.

The primary reasons for opening multiple Qwest trouble tickets on an AT&T service request arise from procedural differences between the parties. CLECs are permitted to bundle repair requests, provided that the repairs are for the same customer and location. Qwest, on the other hand, splits the repairs into separate trouble tickets in order to allow proper calculation of billing adjustments for individual circuits. While individual trouble tickets on a given problem may be opened and closed by Qwest, AT&T may have reasons (*e.g.*, recurring, intermittent service problems) to keep a trouble ticket with its own customer open. Should AT&T wish to pursue a matter on an open AT&T ticket, Qwest would have to open new tickets. From AT&T's perspective, there would thus be more than one Qwest ticket number for an AT&T ticket.

Liberty developed a summary chart itemizing the reason for multiple Qwest tickets, and submitted it to AT&T for comments. AT&T ultimately agreed with Liberty's analysis in one-third of the cases. For the others, AT&T questioned how specific situations were treated in the performance measures. Specific situations raised by AT&T included:

[2] Liberty did not attempt to isolate the reasons for the discrepancy, but during the course of its analysis identified some possible explanations. Liberty found that some of the ticket numbers provided by AT&T were for dates outside the April to June 2001 period, and some appeared to contain typographical errors (since Qwest was able to locate relevant tickets with similar numbers).

- When a trouble ticket is opened and closed but the AT&T customer remains down and another trouble ticket is required to restore service (*i.e.*, more than one Qwest trouble ticket is required to solve an AT&T customer's problem)
- When a reported trouble contains two circuits, each having different problems
- When a trouble is repaired incorrectly or incompletely
- When the wrong circuit is either repaired or reported (*i.e.*, a records error by either party)
- When a trouble ticket is opened to test a repair just made
- When a trouble ticket is closed incorrectly to "no trouble found" (NTF)
- Subsequent or "tracking" tickets.

Liberty examined each of the trouble tickets in question, and subsequently reviewed them with Qwest in detail. Qwest uses guidelines set forth in its business requirements documents to guide the opening and restoring of trouble tickets. Specifically:

- Multiple circuits on one CLEC repair request are split to separate Qwest tickets.
- A ticket is closed upon consent of the CLEC; if the problem remains after a ticket is restored, then a new ticket must be opened.[3]
- All trouble tickets are included in the population of relevant trouble tickets used to calculate performance measures, except those with trouble codes related to customer or carrier equipment and information tickets, (CPE, IEC, and INFO, which explains why some tickets appeared in AT&T's data but not in Qwest's data, because Qwest provided only tickets used to derive the reported measures).
- "No access" time is subtracted out of MTTR under the PID.
- Subsequent tickets are not included in the measure under the PID.
- Trouble reports on products under "retail tariffs"[4] are included in retail performance measures, rather than in the wholesale measures.

The PID does not require distinct measurements to reflect the "quality" of a repair. The fact that a repair may have been made incorrectly, or that multiple attempts were required before the repair was completed is irrelevant; each repair that does not involve a CPE, IEC or INFO (which

[3] According to Qwest, it gets approval from the CLEC before closing a ticket and records the name of the person giving such approval. If the CLEC requests that Qwest hold a ticket open and there is no further action 24 hours later, Qwest closes the ticket back to the restore time.

[4] Qwest indicated that some AT&T customers' products are under the wholesale tariff and some are not; only those under the wholesale tariff are included in the wholesale measures.

includes "test assist") trouble is included in the MR-6 measure.[5] When the wrong circuit is reported or repaired, regardless of which party made the error, the ticket is typically closed to CPE or INFO, and subsequently excluded from the performance measures.

Trouble tickets restored with a trouble code of NTF (no trouble found) are included in the performance measures, as the PID requires. Liberty found, however, that there was some judgment being applied in the assignment of trouble codes. "No trouble found" was closed to NTF in some cases and to CPE in other cases. According to its guidelines, if Qwest tested and found no circuit problem, then it would close the ticket to NTF. However, if additional available information indicated that the trouble was on the CLEC's side (*e.g.*, the customer identifying the wrong circuit or that the trouble was actually on the customer's side), then Qwest would close the ticket to CPE.[6] In the former case, the ticket would be included in the measure; in the latter case, it would not.

Liberty found that, for each of the trouble tickets in question, Qwest handled its trouble tickets consistently with its stated procedures and with the PID. Liberty did, however, find human errors in the coding for roughly 4 percent of the tickets. Specifically, tickets that apparently involved repair work were closed to CPE or INFO, and incorrectly excluded from the measure. Liberty believes that the magnitude of these errors was not sufficient to affect materially the Qwest-reported results. Liberty has concluded that Qwest had handled the repair tickets correctly during the time period, and found no reason to conclude that it had reported its performance incorrectly.

The MTTR reported by AT&T on a given Qwest trouble ticket never matched the duration for the ticket reported by Qwest. For 59 percent of the tickets, the durations differed by more than 1 hour; for 30 percent, the durations differed by more than 12 hours. In a few cases, Qwest had actually recorded a longer MTTR than did AT&T, but in the majority of cases, the time recorded by AT&T was significantly longer than that recorded by Qwest.

Liberty submitted a data request to Qwest asking it to provide: (a) explanations for the difference in duration for a 10 percent sample of trouble tickets, and (b) copies of some of the individual tickets. Liberty found that:

- The disparity in durations ranged from 3 minutes to over 9 days.
- There was an apparent 3-hour difference between the system clock used by Qwest and that of AT&T (Liberty therefore assumed this difference to be a constant throughout its analysis).
- In 77 percent of the cases, Qwest and AT&T had recorded the same (or roughly the same) open time for the ticket.

[5] The differences would instead manifest themselves in the relative performance of each company. For example, if AT&T kept its own trouble ticket number open while Qwest opened and closed tickets more than once, AT&T's MTTR would be longer than Qwest's, but Qwest's repeat trouble rate would be higher.

[6] According to Qwest, at one time all of these tickets were restored as NTF, but this policy changed 2-3 years ago, and they began making this distinction between NTF and CPE.

- In only 23 percent of the cases, Qwest and AT&T had recorded the same (or roughly the same) open and restore time for the ticket.
- In 77 percent of the cases, Qwest had at some point during the repair "no access" time that AT&T did not remove from its MTTR.

Liberty was not able to fully explain the differences in open or restore times. According to Qwest, the times associated with a given ticket are assigned by its system automatically. AT&T's log entries are reportedly made manually. Liberty reviewed AT&T's log entries, and found that AT&T did not always record precisely the times associated with the Qwest tickets; rather its focus appeared to be geared more to recording interactions with its own customers. Absent other evidence, therefore, Liberty has concluded that there is not a basis for concluding that Qwest's start and restore times were inaccurate.

Much of the discrepancy in MTTR between the parties can be explained the fact that AT&T did not subtract "no access" time from the ticket durations provided to Liberty. The differences in restore time noted above arise from the fact that AT&T did not restate tickets back to the appropriate time to account for this "stop clock" time. The fact that AT&T did not typically capture accurate "clock stop" information on its log entries, meant that Liberty could not validate the length of the "no access" times reported by Qwest. Absent other evidence, Liberty has concluded that there is not a basis for concluding that Qwest's no access time, and therefore MTTR, are inaccurate. During its review of Qwest's tickets, Liberty did, however, find a mistake. Qwest improperly subtracted "clock stop" time when it was unwarranted. Liberty found few errors of this type; they were not frequent enough or significant enough in magnitude to affect materially Qwest-reported results.

# IV. Results of Data Reconciliation – Covad and WorldCom

## A. Covad

Covad initially requested an audit of the disaggregated line sharing and unbundled 2-wire non-loaded loop numerators and denominators for OP-4, OP-5, MR-3, MR-5, MR-6, and PO-5 for the months of May, June, and July 2001. After its own analysis, Qwest indicated that OP-5 was not auditable because the data used to calculate it originated from too many sources to permit a record-by-record reconciliation. Qwest and Covad could not produce data with a common field, which would be necessary to permit reconciliation of the maintenance and repair measures.

Liberty reconciled OP-4 to the extent possible, given the information provided by Covad and Qwest. Liberty classified the orders according to whether Qwest and COVAD agreed on the numerator, denominator, and inclusion in the measure. Liberty then requested information from both parties. Qwest provided Local Service Requests (*LSR*), Work Force Administration Control (*WFAC*) records, and a discussion of specific orders that were included by Covad, but not by Qwest. Covad provided an updated database that included a number of orders that had been excluded for various reasons by Qwest, but did not include any documentation of Covad's position on any of the orders. Liberty reviewed the data filings, then performed additional analysis and presented a supplemental data request to the two parties. Again, Qwest provided LSRs and WFAC documentation on orders it had excluded, and, with only limited exceptions, Qwest provided all the information requested for OP-4. Covad did not respond. On November 29, 2001, Covad indicated that it had additional documentation related to the Arizona reconciliation. Liberty did not have time to secure and use that information in time to include its effect in this report.

For the period from May through July 2001, Covad and Qwest agreed on 42 percent of the total OP-4 denominator orders. They agreed on the numerator in many fewer cases.

Qwest provided documentation for all its OP-4 line sharing orders that were in conflict with those included in Covad's numerator. The documentation consisted primarily of LSRs that provided the application date, completion date, and reference date. Liberty compared the values from these documents with values included in the comparable field in the data files supplied by Qwest. Liberty did not find any inconsistencies between the LSR documents and data files. Covad did not provide support for its data files. Liberty conducted the same type of analysis on 2-wire NL UBL orders with similar results. Liberty did not find inconsistencies between the LSR documents and Qwest data files.

Liberty also requested that Covad provide information on Qwest's PONs that were not matched by Covad. Covad indicated that it was unable to provide the information. Covad did provide an expanded data set that may have addressed some of the problems, but did not provide headers for the data set. Liberty was unable to use it. Liberty treated orders where Qwest was able to identify a PON as appropriate for inclusion in the performance report. Qwest was unable to provide PONs for some orders included in performance reports for the three-month period. Liberty treated these orders as inconclusive in its analysis.

Liberty requested documentation from Qwest for the orders that Covad included in the line sharing performance, but that Qwest did not include. Qwest responded with data for some instances, but stated there were some orders for which Qwest could not provide information. Liberty also treated these orders as inconclusive.

In summary, for OP-4, Qwest and Covad matched on 42 percent of the line sharing and 2-wire NL UBL orders. There was substantial disagreement between Covad and Qwest on the numerator for the line sharing orders. Qwest provided LSR documentation to support its position. Covad did not provide documentation for its position. For the period examined, Liberty found that 34 percent of the orders demonstrated inconclusive results, primarily because neither party could provide any support. Liberty's review of the Covad data and of the Qwest data and supporting documentation did not reveal any problems with the accuracy of Qwest's performance reporting.

For PO-5, Liberty again matched and classified the extent of agreement between the parties, and requested support for areas of disagreement. Qwest provided a file analyzing the Covad orders that were not included in Qwest's files. The file identified the reason for excluding each order. Qwest also offered to provide additional documentation, provided that Covad provide documentation of its data file. Since it was the best and only information available, Liberty used the Qwest analysis to evaluate Covad's May and June data. It showed that many of the records should not have been included for Arizona or for the months within the test period.

Liberty has prepared spreadsheets showing the results of its analysis of the Covad service orders. These documents contain information that is proprietary to Covad; therefore, Liberty made a limited distribution of them.

## B. WorldCom

Liberty's scope of work associated with WorldCom (WCom) and Arizona included OP-3, Installation Commitments Met, and OP-4, Installation Interval, for LIS Trunks and 2-wire unbundled analog loops. The time period under consideration was January through May 2001.

WCom did not provide data at the level of detail measured by OP-3 and OP-4 in certain cases. Therefore, Liberty's reconciliation had to be adjusted accordingly. For example, WCom did not disaggregate its OP-3D and OP-3E, and OP-4D and OP-4E, data by zone; therefore, the reconciliation addressed results for these sub-measures on a combined basis. In addition, the data provided by WCom did not contain sufficient information to calculate the OP-4 numerator, which is the actual installation interval. The UBL denominator for OP-4 excludes orders with customer-requested due dates that are greater than the standard interval. WCom could only determine these excluded orders on a limited basis. Therefore, Liberty sought to determine whether WCom's information on the total order counts showed any problems with the numbers reported by Qwest for OP-3 and OP-4.

Liberty's reconsolidation process confirmed the existence and generally appropriate use of Qwest's systems to produce accurate OP-3 and OP-4 measurements for WCom. Liberty found a

small number of Qwest errors in the data inputs to these systems. These errors affected less than 2 percent of the total orders considered.

The initial reconciliation focused on the fact that Qwest reports at a service-order level, while WCom develops data at a purchase order level. A purchase order, or PON, might result in multiple service orders; therefore, Liberty had to establish the PON/SO relationship. Liberty found a number of differences between the WCom and Qwest classification and counting of orders. For example, WCom uses the month of actual order completion for reporting, while Qwest uses the reference date of an order, which means that some orders completed at the end of a month may be reported by Qwest in the following month or later. (See discussion in the AT&T section of this report.) The other significant difference in order counting was the fact that Qwest did not count orders classified as a customer-caused miss of the due date.

Liberty verified that Qwest's reported performance for WCom was correct strictly on the basis of Qwest's own data. Then, after the service order reconsolidation, Liberty determined that the orders reported by Qwest and WCom matched in 42 percent of the cases for LIS Trunks and in 75 percent of the cases for UBLs.

For the apparent discrepancies on LIS Trunk orders, Liberty found that in 47 percent of the total, either Qwest's and WCom's records affirmatively showed that Qwest was correct or that there was no information to prove that Qwest was incorrect. In 6 percent of the total, the results of the record analysis were inconclusive, and in less than 5 percent of the total, Liberty found that Qwest was incorrect. Qwest's errors were of two types: (a) that an order should have been ruled ineligible using Qwest's rules for a customer-caused miss, or (b) that the commitment date did not appear to be met as reported by Qwest.

For the apparent discrepancies on UBL orders, Liberty found that in 22 percent of the total, either Qwest's and WCom's records affirmatively showed that Qwest was correct or that there was no information to prove that Qwest was incorrect. In 2 percent of the total, the results of the record analysis were inconclusive, and in less than 2 percent of the total, Liberty found that Qwest was incorrect. Qwest's errors involved either lack of support for a customer-caused miss classification or some other reason for excluding the order. Most of the errors occurred in January 2001.

Liberty has prepared spreadsheets showing the results of its analysis of the WCom service orders. These documents contain information that is proprietary to WCom; therefore, Liberty made a very limited distribution of them.

# V. Future Qwest Data Reconciliation

CLEC claims that Qwest's performance measures were inaccurate had a foundation in the data available to them. The basis for those claims was a set of results that differed from those reported by Qwest by a very large amount. Liberty's data reconciliation work in Arizona showed that a small number of reasons explained a relatively large percentage of the differences. CLECs may not agree with Qwest on matters such as the definition of service order completion, Qwest's practice of making records ineligible because of customer changes to due dates, or closing trouble tickets simply because the wrong circuit had been identified. Nevertheless, these kinds of issues are the main reasons why results were so disparate. While debate on such matters may continue, the value to be gained from future reconciliation work would be substantially more time- and resource-consuming in the event that it must deal with each of the many records that would be ultimately explained by one of these issues.

The dedication of resources and the level of detail of information that is required on the part of CLECs in order to meaningfully participate in data reconciliation should be better understood as a result of the work done for Arizona. Even if the number of records that are subject to reconciliation is limited in future reconciliation work, the CLECs and Qwest now know the level of detail and nature of the records that are necessary to support positions on the treatment of a record for the purposes of a performance measure. If any party cannot make the requisite commitment, any attempt to reconcile records will have limited value.

There may be differences in the ways that Qwest performs in various parts of its region, and future reconciliation work should attempt to focus on those performance aspects that could result in differences from the Arizona findings. For example, service orders could be treated differently by different service order processing centers, or systems in some parts of Qwest's region could be closing trouble tickets with different codes or upon different circumstances than exist other parts. Liberty has requested that Qwest make an assessment of possible reasons why there could be differences among the states. The response to that request was not received by the time this report was written.

Liberty concluded on the basis of the work done in Arizona that the information provided by CLECs did not demonstrate material inaccuracies in how Qwest reported its performance. However, Liberty also believes that there is value to some level of data reconciliation in other parts of Qwest's region. To gain that value, the focus should be on a more detailed review of selected or sampled records rather than attempting to explain the reasons why, for example, one party's denominator of a particular measure and product is different than the other's. If the goal is to provide additional assurance that Qwest's performance measures are accurate, then more focused work on questions like the assignment of customer jeopardy to service orders or no-trouble-found close-outs of trouble tickets could prove beneficial. If, however, the goal is to explain generally why CLECs' results are so much different from those reported by Qwest, then Liberty considers the results found in Arizona to be largely responsive in meeting that goal.