FairPoint Post-Cutover Status Report
Liberty Consulting Group
September 8, 2009

Introduction

After FairPoint Communications Inc. (FairPoint) cut over its back-office operations at the end of January 2009 from support provided by Verizon Communications Inc. (Verizon) through a transition services arrangement to new processes and systems developed for FairPoint by Capgemini, FairPoint's operations have experienced significant customer-affecting problems. The Liberty Consulting Group (Liberty) has been monitoring FairPoint's progress in alleviating these problems on behalf of the staffs of the Maine Public Utilities Commission, the New Hampshire Public Utilities Commission, and the Vermont Department of Public Service (collectively, Regulatory Staffs). This represents a continuation of Liberty's monitoring for the Regulatory Staffs the development and testing of the systems and processes from late 2007 until the January 2009 cutover.

On September 2, 2009, Liberty issued a report, "Comments on FairPoint's Stabilization Status," at the request of the New Hampshire Public Utilities Commission staff. In that report, Liberty provided information about the current status of FairPoint's efforts to bring the company's operation to an acceptable level of performance. Liberty noted that although some areas of FairPoint's performance have improved since cutover, such as the ability of customers to reach the call centers, and other areas were little affected by cutover, such as the performance of FairPoint's network, several significant problems remain unresolved and that FairPoint is making little progress in resolving them. These include problems with:

- The flow of orders, including the frequency of order fallout and continued difficulties submitting orders into the provisioning systems; FairPoint's order flow-through rate[1] is significantly below the designed rate and has not improved substantially since June
- The high percentage of late orders and orders late for a significant length of time for both retail and wholesale customers; currently, 30 to 40 percent of pending orders are late and 40 to 50 percent of late pending orders are late more than 20 days, and these numbers have not improved since June
- Billing errors and other problems for both retail and wholesale customers; the most common complaint from FairPoint's retail customers has been billing problems, with late provisioning problems accounting for most of the rest
- The high rate and slow resolution of customer problems referred to FairPoint by the Regulatory Staffs and poor communication about the status of those problems; the regulators in all three northern New England states are currently receiving around six times the number of complaints about FairPoint as those received prior to cutover and these complaints are taking around three times as long to resolve

[1] The flow-through rate is the fraction of orders that move through FairPoint's systems to the initiation of any required manual provisioning steps, such as dispatch of a technician to a customer's premises, or to full order completion without manual intervention.

- Accuracy of reported data; Liberty has found a number of discrepancies in the data FairPoint has provided to the Regulatory Staffs, and the CLECs have noted discrepancies in the data reported in FairPoint's wholesale Carrier-to-Carrier reports.

In this report, Liberty also noted that we had initiated a study with FairPoint to examine the causes for the two problems areas that appear to be having the most serious customer impacts and have led to the most common complaints: 1) ordering and provisioning problems and 2) billing errors. The purpose of this report is to provide an update on the status of Liberty's investigation.

Investigation Approach

Liberty visited FairPoint's offices in Portland, ME on August 18-19 and September 1-3 to examine recent orders and bills identified as problematic, either because of missed committed due dates or because retail or wholesale customers had raised concerns about them. Working with FairPoint's experts, Liberty examined the records in FairPoint's systems to determine the flow of transactions associated with the orders and the creation of the bills, tracing orders from order entry to the creation of the bills and the update of internal and external databases.

Liberty used three different samples in this investigation: 1) a FairPoint-provided set of late retail and wholesale orders; 2) a CLEC-provided set of problematic wholesale orders, bills and other related concerns, such as missing bills and usage issues; and 3) a set of retail accounts for customers who issued complaints to the State Regulators. Liberty investigated a total of 66 orders, 24 billing accounts, and 10 other ordering or billing issues, such as missing usage records. In cases where there was an associated order, whether or not the problem was originally identified as an ordering or a billing issue, Liberty traced the order from original order entry to creation of the bill, when appropriate.

As this was meant to be an exploratory investigation, no attempt was made to draw a random sample of orders or bills. Thus, it is not possible to draw statistical conclusions from the sample or to assure that the issues raised are representative of the full range of FairPoint's problems with ordering, provisioning, and billing. Nevertheless, because the investigation identified a number of common root causes of problems in the sample, Liberty believes these root causes are likely to be pervasive.

Working with the appropriate subject matter experts from FairPoint, Liberty examined in detail each sample order to identify the root causes of the problems. In most cases, these orders were designed to flow through FairPoint's systems but fell out for various reasons, and the order then progressed through a set of manual processes. After identifying the cause of the fallout, the investigation team tracked the history of the service order through each of the manual steps using the history logs for each order stored in FairPoint's order management systems. If a flow-through order did not fall out but still produced a provisioning error, the team looked for the cause of the error. For orders not

designed to flow through, Liberty and FairPoint focused on identifying where there might be a breakdown in manual order processing, again tracking the events in the provisioning process using order history logs.

For billing account issues, FairPoint and Liberty examined the history of the billing accounts beginning with the billing records converted from Verizon's systems and ending with the current account status. The team examined whether the customer's problem stemmed from an issue with the converted Verizon billing data, whether there was any service order activity on the account that may have adversely affected the billing records, or whether the problem stemmed from some other flaw in FairPoint's process for creating the customer's bill. On August 30, Liberty also met in Littleton, NH with the FairPoint team that reviews the sample bills from each billing cycle for errors, in order to review this process.

Findings

Liberty and the FairPoint team Liberty worked with agreed that this investigation was very productive and helped identify a number of specific immediate actions that FairPoint can take which would result in significant improvements in its customer service. Liberty notes the principal findings of the investigation below.

Ordering and Provisioning

In most cases, there were multiple causes for the ordering and provisioning problems examined in this investigation, but some common themes emerged. For most of the orders examined, the team found that the chain of events leading to the problems began with unexpected fallout from the automated ordering and provisioning steps. Order fallout was generally caused by one of three issues:

1. Inventory mismatches between internal systems.

2. Order entry errors. These were often due to inadequate error checks in the order entry systems, allowing faulty orders to enter the order flow rather than rejecting them back to the order writer for upfront error correction. Examples where system ordering checks could have prevented ordering errors leading to fallout included:
   - DSL orders entered with an incorrect data speed value
   - Incorrect ordering of a POTS and DSL bundled service by the service representative
   - Incorrect service combinations on a service order
   - Using the same address on a move order for the old and new premises.

3. System defects, missing systems functionality, or poor system design. Examples include:
   - Assignment of an incorrect "provisioning plan"; that is, assigning the wrong set of provisioning steps to the order

- Inability for customers to keep their telephone numbers when moving within the same local area
- System generated completion notices before provisioning work is complete
- Orders "stuck" in an automated provisioning step when one system was attempting to communicate with another system because that system was unavailable or because of other system timing issues; when this occurs, human intervention is required to allow the order to continue along its provisioning path.

Other system issues caused incorrect ordering and provisioning of flow-through orders and interfered with the efficient manual processing of orders that fell out. For example, Liberty observed cases where:

- A retail customer's service was disconnected during the porting of the customer's number from FairPoint to a CLEC because the system executed the disconnection before the CLEC had accepted the number from FairPoint
- The systems allowed order entry for a retail "winback" of a customer before the firm order confirmation was received from the CLEC losing the customer
- The system routed orders that fell out to the wrong manual queues; this delayed provisioning of the orders until the queue owners recognized that the orders needed to be routed to a work queue in a different department
- The systems allowed an order writer to override the dispatch requirement on an order that required an inside plant dispatch, resulting in order completion before executing the required central office work.

Some system fallout and the resulting manual handling of orders is inevitable and even the most mature telecommunications systems experience fallout of service orders that are designed to flow through. However, as Liberty indicated in its September 2 report, FairPoint's order flow-through rate is significantly below the designed rate and this fallout is a major contributor to the problems that FairPoint's customers are experiencing. To prevent provisioning errors and delays, FairPoint must have efficient and effective processes and sufficient staffing in place to manually execute the ordering and provisioning steps in a timely manner when order fallout occurs.

Liberty found that although systems and data issues were the principal cause for orders to fall out for manual handling, problems with the manual processes were the main reason why orders were provisioned late or in error. The team examined the progress of the sampled service orders through FairPoint's manual processes and found a number of problems with these processes that are significantly contributing to FairPoint's late or incorrect provisioning of customer service. The most detrimental of these process flaws is FairPoint's management of its manual work queues. When an order requires human intervention, a FairPoint's system or a FairPoint staff member places the order in a manual work queue. There are different queues for the different organizations involved in the ordering and provisioning process (*e.g.*, the facility assignment group, the wholesale group, and the dispatch resources group) and the process is designed to place the order into the queue of the organization that is responsible for either resolving the issue that made the order fallout or for completing the next step in the manual order processing.

Liberty found that orders often remain in a queue for an inordinate amount of time, exceeding one or two months for some orders, before they are addressed by the queue owner. In some cases, the team found that a "stuck" order could move to the next step in the provisioning process if the queue owner completed a simple manual system update to acknowledge that a task was completed. FairPoint's current management of these queues is the responsibility of each individual queue owner; FairPoint does not have a manager who is responsible for the oversight of all the queues to ensure that orders are not stagnating in any individual's queue.

While queue management is the most significant process problem causing customer service provisioning problems, the investigation revealed other problems with the process design:

- Manual work performed in a specific task area with no follow-up to ensure satisfaction of end-to-end requirements (*e.g.*, activating customer service in the switch with no follow-up to update inventory records and billing records)
- Inability to make timely updates to the customer address database when a missing or new address needs to be added
- Central office technicians clearing orders on the day after the order was due even though the work was completed on time; this procedure delays the update of downstream databases such as billing, directory assistance, and E911
- New construction addresses not loaded into FairPoint systems until FairPoint receives its first order at that location, thereby slowing down the provisioning process
- Not processing directory listing changes until all errors were resolved with the external vendor (Idearc); this delayed updates of the directory assistance (411) database and internal customer service records
- Missing manual processes. In at least one case, this existed because of poor communication between FairPoint's operations and information technology (IT) departments. The IT department did not make FairPoint's service representatives and the call center organization aware that there was no automated process for updating carrier billing records when customers chose FairPoint as their long distance carrier and that a manual process was required. As a result, the call the service representatives did not have a manual process to make these updates, which created severe billing errors for customers who have chosen FairPoint as their long distance carrier since cutover.

In addition to process design flaws, the team also uncovered a number of cases of manual process errors that caused service orders to be provisioned late or incorrectly. Given the excessive number of service orders not flowing through as designed, human error is inevitable. Until FairPoint can improve its flow-through results, the company's ordering and provisioning will continue to experience human processing errors.

Billing

The team found that many issues that appear to be billing errors from a customer's perspective are actually caused by a provisioning problem further upstream of the billing

systems. Provisioning problems often cause incorrect updating of a customer's billing records, which are among the last databases to be updated in FairPoint's systems. In such cases, the customer will see the problem in the bills received, even though the problem was caused by a systems or process deficiency in the upstream provisioning systems. Two examples of this are: 1) when FairPoint continues to bill customers after porting their service to a CLEC, and 2) when FairPoint personnel manually establish service but fail to update downstream records, resulting in a missing or an incorrect bill to the customer.

In addition to billing issues resulting from a breakdown in the provisioning process, the team's investigation revealed a number of other issues that resulted in billing errors to the customer. These issues included:

- Applying payments received from one customer to another customer's account
- Missing rate elements in the database causing delays in bill production and distribution
- A systems issue causing an incorrect usage allowance for multiple-line measured service accounts
- A systems issue causing the "parent" and the "child" accounts within a summary bill to be on different bill cycles
- An incorrect code set in the wholesale billing system, causing suppression of bill delivery to a specific wholesale carrier
- Establishment of a new billing account without communication back to the CLEC
- Multiple daily usage files sent to the CLECs due to a FairPoint systems limitation on file sizes
- Systems inventory mismatches
- A systems defect causing misaligned "child" accounts for CLEC directory listing summary billing.

In addition, Liberty noted the following additional concerns related to billing:

- It is unclear that all usage records are being captured properly
- FairPoint's process for fixing billing errors is insufficiently sensitive to the age and severity of the issues involved; in some cases, FairPoint is addressing defects associated with small and recent errors before older and more significant ones.

Conclusions and Recommendations

FairPoint's customers continue to experience severe problems associated with errors and delays in ordering, provisioning, and billing. Many of the billing problems are actually caused by ordering and provisioning errors. Based on our investigation, Liberty draws the following conclusions.

1. *Two principal causes appear to produce most of the observed the order, provisioning, and billing problems:*

a. *Systems and data problems that cause order fallout and contribute to errors in the ordering, provisioning, and billing processes*
b. *Poorly designed and managed manual processes that lead to excessive provisioning delays and errors.*

Unexpected systems fallout is the most frequent initial cause of the sequence of events that produce provisioning delays and many provisioning and billing errors. The fallout is produced by such causes as data discrepancies between FairPoint's systems, remaining system defects, and system design flaws that contribute to order entry errors. Once the orders fall out for manual handling, whether unexpectedly or by design, the subsequent provisioning is managed through processes that are poorly designed, coordinated, and managed. Some human error is inevitable given the large volume of unexpected fallout. However, many manual processes are inefficient, or there is insufficient staffing and staff training for the processes. Orders frequently land in provisioning work queues for days to weeks before anyone handles them, and when someone finally looks at the order, the person sometimes finds that the order was assigned to the wrong queue. Poor design and defects in the systems often contribute to further errors and delays in the manual provisioning process. Other billing-specific process and system defects produce additional billing errors, including incorrect application of customer payments.

2. *FairPoint's process for identifying and resolving underlying systems and process problems is flawed.*

Although FairPoint was already aware of some of the system defects and process issues revealed during Liberty's investigation, most were revealed for the first time during this investigation. Most of the problems uncovered have existed since cutover and many of the specific orders, accounts, and bills examined in the investigation were selected because they were suggested by the State Regulators and CLECs and had already been communicated to FairPoint through the PUC complaint escalation, the CLEC trouble reporting, and the CLEC billing dispute resolution processes. Many have been pending without resolution for weeks to months. In some cases, FairPoint was aware of a problem but no attempt was made to uncover the root cause until it appeared again in Liberty's investigation; for example, some FairPoint organizations were aware of the errors in provisioning FairPoint long distance to new customers, but no one took ownership to determine the cause of the problem and it languished for months before it appeared again in Liberty's investigation as the result of a PUC escalation. This suggests a flaw in FairPoint's process for identifying and addressing the root causes of the problems. It appears that FairPoint is trying to handle complaints and disputes on an *ad hoc* basis without attempting to determine and fix the underlying causes for these issues.

3. *FairPoint has ineffective end-to-end management of the systems and processes.*

Liberty's investigation uncovered a pattern of poor overall end-to-end management of FairPoint's systems and processes. Different work groups are responsible for the various steps in the flow of transactions from ordering through provisioning to billing. Liberty found cases of poor communication and coordination among these different work groups and between the operating work groups and the IT department that manages and introduces updates and corrections to the systems. There is often a lack of overall ownership of a customer's problem to make sure it is resolved end-to-end.

Addressing some of these problems requires long-term efforts to review and correct system, process, and staffing flaws. Liberty recognizes that FairPoint's new Internal Business Solutions group, headed by Vicky Weatherwax, is engaged in such a long-term effort. That group is also managing some short- and intermediate-term initiatives. However, it is important that the scope of these initiatives adequately address the immediate problems. Given the mounting complaints from customers, regulators, and other government officials in all three northern New England states, and given FairPoint's financial and business imperatives, it is crucial that FairPoint take immediate action to alleviate the existing problems in the short run.

Liberty recommends that FairPoint take the following steps, which we believe can provide quick benefits in improved customer service:

1. *Establish end-to-end management oversight of the manual ordering and provisioning processes and instill a sense of urgency throughout all levels of FairPoint's staff to quickly resolve customer ordering, provisioning, and billing problems.*

   Examples of specific immediate steps FairPoint can take as part of establishing end-to-end process management are to:
   - Create a new management position and a supporting organization that has overall responsibility to ensure the efficient and timely flow of orders end-to-end through all ordering, provisioning, and billing steps; this position must be filled with a manager who has good overall knowledge of the processes, is empowered to assure that the managers of the individual work queues quickly resolve issues, and is sufficiently resourceful and assertive to assure effective and timely execution of process steps in the different responsible organizations
   - Develop an automated alert method that will identify orders that have been lingering in queues longer than expected
   - Review critical manual processes to identify and introduce process improvements across all the operating organizations
   - Ensure adequate staffing of the manual processes across all the operating organizations
   - Identify areas where additional training will reduce the incidences of human error

- Review and revamp the billing dispute process in order to better identify and resolve claims.

2. *Improve the process for determining the root causes of current problems in order to identify and implement immediate as well as long-term systems and process improvements.*

   Liberty's joint investigation with FairPoint described above to seek the root causes of known ordering, provisioning, and billing problems must become part of the normal course of business for FairPoint. A FairPoint team needs to look at samples of late orders, and orders and bills subject to PUC escalations and CLEC complaints and disputes, to determine the underlying causes of the problems. This analysis can be used to identify and resolve lingering system defects that are preventing orders from flowing through or are causing other customer affecting problems. It can also be used to identify order-entry logic and business-rule validations that can be made at the beginning of the ordering process to further prevent faulty orders from entering the system. The team needs to prioritize the problems by frequency and impact and seek both immediate and long-term solutions to them.

3. *Conduct a cross-system inventory validation and reconciliation to identify data discrepancies between the systems and to synchronize the data in its systems in order to reduce unexpected order fallout.*

   Among the sources of order fallout are customer record and network inventory data errors and inconsistencies among FairPoint's internal systems. FairPoint must rapidly execute a comprehensive program to identify and fix these problems and reconcile the data in the systems. Liberty is aware that FairPoint has begun a so-called "switch to bill" inventory to ensure that the information in the switches is consistent with the system data bases. However, this does not address many issues with other types of customer data that can cause order fallout, such as customer address errors.

In this report, Liberty did not consider all the problems that are currently affecting FairPoint's operations. However, we believe that the issues considered are among those with the most significant customer impact. Given all the current pressures on FairPoint coming from many different sources, it is imperative that the company take action soon. Although it will take many months for FairPoint to address all of its problems, Liberty believes that the steps recommended above can alleviate many problems and significantly improve performance within a few weeks. To assure that this happens, FairPoint must continue to report operational results to the State Regulators to track progress. In doing so, FairPoint should also address the reporting problems Liberty noted in our September 2 report.