

Mapping and Efficient Outage Response

Responding to outages is an urgent priority for any communications provider. To do the job right, a good digital mapping system is a necessity.

By Rachel Harrison / *Mapcom Systems*

When I was 18, I was on a training mission learning how to navigate terrain in the Army. On the first day, the drill sergeant broke the group into three-person teams, gave us grid points to find and handed a map to each of us. As we attempted to plot the first point, we quickly realized we had each been given a different map.

At first we suspected the sergeant was having a laugh at our expense, but upon further investigation, we found our maps represented the same geographic area with different features on each. My map showed man-made structures such as towers and roads. One of my buddies' maps showed elevations such as mountains, valleys and cliffs. Finally, the last member of our team held a map that depicted all water and woodland features. Certain that the three maps together gave us enough information to navigate, we set off for the first point.

Many hours and arguments later, we had navigated to only four points out of a 15-point list. As nightfall came, our drill sergeant finally collected us, highly entertained by our failure. We, however, were not so amused. Cold, hungry and demoralized, we glared at one another on the way back to our campsite. The next day, we were hauled to the same site, but this time we were each given a map with all the features represented. Once we shared the same source of information, we became an efficient team and navigated together as one unit rather

than as three individuals. Unlike the first day, we mapped each point and made it to the end; more important, we didn't miss lunch this time.

GETTING ON THE SAME PAGE

For communications providers, digital mapping software provides the same advantages as the Army map with all features displayed. It not only displays all possible features for maximum accuracy but also acts as a single guide for each team member to work from. Cohesion and efficiency significantly improve when all parties have access to the same view.

A unified view is especially critical for a communications provider. Many organizations fall victim to geographic and departmental separations among key employees. This problem is never more evident than when a company faces an urgent situation, such as a major outage. Whether an outage is caused by an accident, an operator error or a natural disaster, the objective is exactly the same: restore services as quickly as possible. An outage can require responses from employees throughout a company, starting with the central office and then involving inside and outside engineering, the network operations center and finally the outside-plant technicians who must rebuild any lost connectivity.

Digital mapping software proves its value during these high-stress scenarios. The ideal solution is a connected system that integrates with the existing OSS and BSS to ensure

efficiency and timeliness. With the help of a smart mapping solution, an outage is first reported by, logged by and communicated from an integrated system. From there, the outage data is sent to a robust workforce management system that can automatically deploy tickets to the appropriate departments based on the alarm data. These time-saving features allow technicians to quickly see comprehensive details of the outage on the fly. Data can be sourced from a variety of systems that provide details such as fiber counts, splices and associated equipment.

If a ticket is also sent to a central office to work in conjunction with the outside plant, having it come from an integrated system ensures that each individual receives the same ticket details. This creates a clear dialog between the inside and outside technicians and guarantees the fastest resolution to an urgent situation. If any changes are needed to restore service, the engineering department can obtain all pertinent information to perform any modifications. If a customer's actions caused the outage, a smart mapping solution is especially helpful. A mapping system equipped with billing integration capabilities can gather and track all charges accrued during the restoration process and bill them to the customer.

A comprehensive, accurate, accessible database also demonstrates its value when it comes to meeting an FCC reporting requirement. By using master data accumulated during the outage and restoration, a communications provider can readily give an accurate account of its process to the FCC's network outage reporting system, which demands notification of outage and restoration times and of the procedures used.

A REAL-LIFE EXAMPLE

When I worked for a major communications provider, I spent quite a few years managing a central office in which outages were commonplace. Most were low priority, but one major outage I encountered highlights the need for a common mapping database. At two in the morning, a drunken



Digital mapping software should show all information needed to respond to an outage.

driver careened into a hut that serviced a regional airport in my central office footprint. This location served both small commercial aircraft and military aircraft for a local base. The fact that the military depended on this airport immediately elevated this outage to a critical priority for restoration.

Because of the extensive damage to the hut, we needed to reengineer most of the circuits supplying the airport. This required deployment of personnel and resources from several departments. Unfortunately, each department worked independently, so establishing a rapid plan of action was a challenge. To make matters worse, each group was referred to a separate source of information to complete its tasks for the restoration. As can be expected, the division of information resulted in a tangle of who, what and where.

The absence of a single source for reliable information was a serious and undeniable problem. Just like the three-person Army team, we tried to navigate the same area with different maps. After close to 18 hours, we finally restored service, but the restoration came at a high cost: The FCC levied heavy fines on the company.

We also had to do damage control with our customers; subscribers needed to feel confident in our ability to provide consistent service. Our organization had to execute a major transformation for outage response procedures, starting with our software solutions. We employed a more comprehensive and transparent

mapping system. The transition had an immediate effect not only on outage response but also on everyday maintenance and developments. Our organization could have saved hours and money had this change been the result of savvy preplanning instead of the response to a disaster.

Mapping software such as Mapcom Systems' M4 Solutions can provide the comprehensive view that is so critical for a communications provider. Integrated, flexible solutions can bring all a company's departments together to achieve fast service restoration. They also help providers avoid the harsh financial consequences of poor organization and communication, such as FCC penalties for outage response failures. Most important, with a robust mapping solution, a company can ensure reliability for its customers.

Not unlike military operations, telecom projects bring all facets of a business under the same umbrella. Success starts with everyone communicating from the same intelligence. Companies can't always control when an outage will happen, but they can control how they respond. ❖

Rachel Harrison is a technical analyst at Mapcom Systems, whose M4 Solutions Suite has helped more than 180 communications service providers manage their networks and workforces. She has worked in telecommunications for over 20 years and can be reached at rgulliksen@mapcom.com.