

Overture GIS Harnesses The Power of Information

A new geographic operating system helps Greenlight Communications operate more efficiently and provide proactive customer service.

By Masha Zager / *Broadband Communities*

Proactive service is the key to keeping customers happy and running a network efficiently, according to Will Aycock, general manager of Greenlight Communications, the municipal broadband provider in Wilson, N.C. Network operators can provide proactive service only when they know about problems before their customers do.

Greenlight began operations five years ago, and Wilson residents and businesses have enthusiastically adopted its fiber optic services. (For a full case study of the Greenlight deployment, see the January/February 2013 issue of this magazine.) Aycock, originally a geographic information systems manager, developed the GIS system that Greenlight used to build and manage its network. However, this homegrown system, though highly functional, was difficult for non-GIS experts to use, which limited its potential benefits.

When ETI Software Solutions, whose subscriber management, workforce management and billing software Greenlight deployed, began looking for network operators to beta test its new geographic solution, Aycock was among the first to volunteer. He understood the potential for GIS to improve Greenlight's operations, and he was eager to test a system that his entire organization could use.

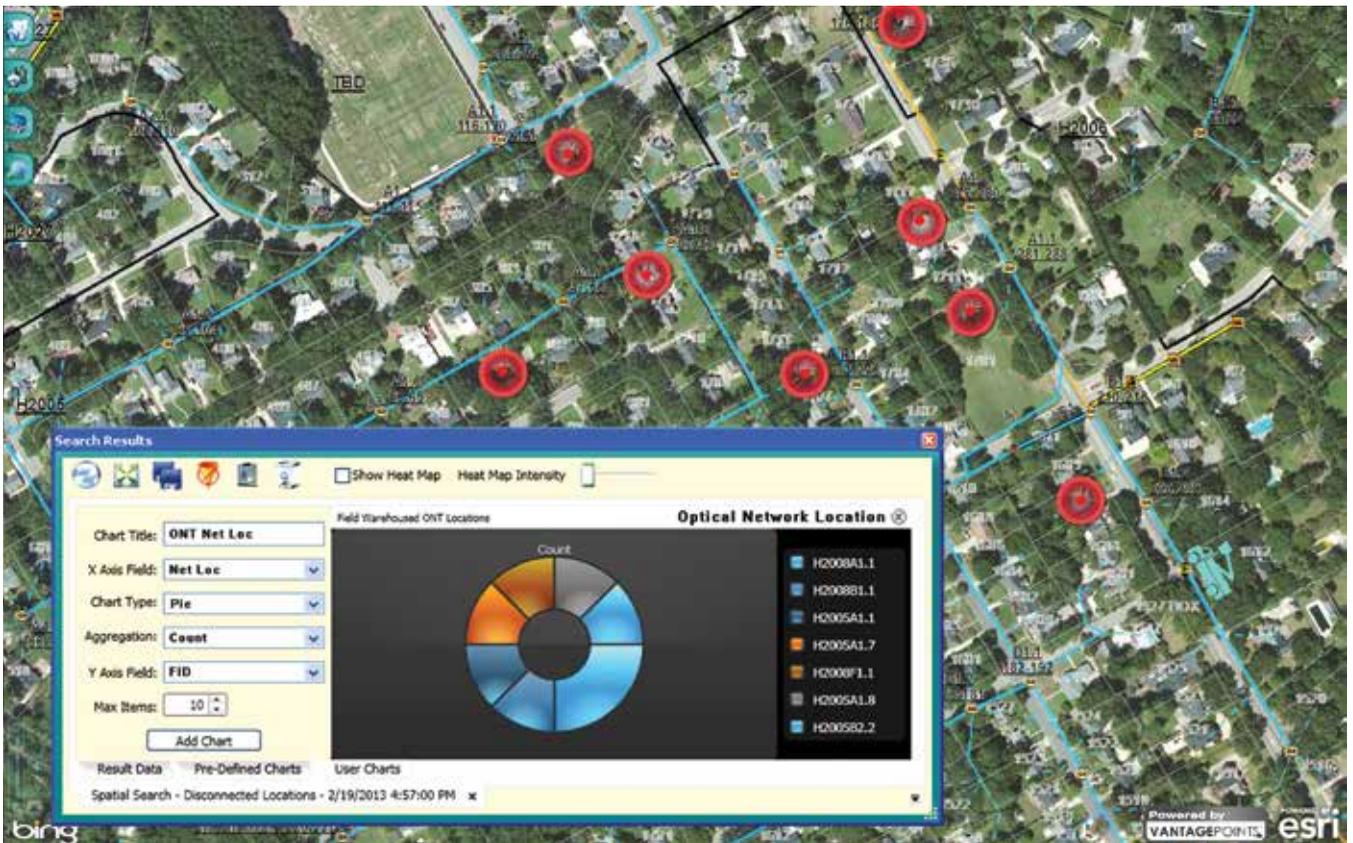
The new solution, Overture GIS, integrates ETI's data warehouse (marketed as Triad) with

Geographic Technologies Group's Vantage Points GIS software, making subscriber data, plant management records, fiber and network element information, and workforce management data available on a single platform. Location-based information from external sources – such as photographs, weather data, and income or other census data – can also be added to the system.

Instead of being limited to GIS specialists, Overture is easily accessible to engineering, network management, sales and marketing, customer service and executive management personnel. It provides comprehensive network and customer intelligence that network operators can use to maximize their revenue, reduce their operating expenses and improve their customers' experiences.

WINNING CUSTOMERS, IMPROVING OPERATIONS

In a recent Web demo of Overture GIS, Aycock said Greenlight's proactive approach to network management had paid off in a recent sales meeting. The prospective commercial customer was already a residential subscriber. He came to the meeting favorably disposed toward connecting his organization to Greenlight because, he said, a network technician had recently appeared at his door to respond to an outage he hadn't yet reported. "That type of response generates good will and makes sales in the future," Aycock commented.



Tracking locations of ONTs, pigtails in hub cabinets, splitter cards and PON ports minimizes operating expenses via improved asset management.

Greenlight’s faster-than-light response was possible because a network operations center (NOC) worker saw the customer’s outage appear on a map in real time and, using GPS signals from company maintenance vehicles, identified the technician closest to the scene and sent him to fix the problem right away.

Aycock supplied many examples of how Greenlight uses Overture GIS for intelligent and effective management.

- Reports on repeat trouble calls and repeat truck rolls over a two-month period allow supervisors to identify common problems and trends. For example, if one installer is consistently responsible for a high proportion of follow-up issues, additional training may be warranted. Follow-up reports can help determine whether recurring problems have been solved.
- Reports on repeat customer calls in a single week prompt supervisors

to call back customers and find out whether their problems have been addressed properly.

- Real-time reports of open service calls make systemic issues apparent so that call center personnel can begin tagging them as system outages. Aycock said, “Before, network engineers would run down to the NOC and hang over the shoulders of the NOC staff, asking ‘What shelf is it on? What services are impacted?’ Now they can easily see [all that information] from their desks. ... If they immediately start aggregating tickets by shelf, by line terminal, by PON and so forth, they can figure out what’s failed, and that speeds up response time.”
- Real-time displays of optical network terminal (ONT) alarms on the NOC’s main display make fiber cuts and other urgent issues immediately apparent, enabling technicians to swing into action

to deal with them. For example, during Hurricane Irene, a particularly destructive storm that pummeled the East Coast in August 2011, the NOC staff followed outages in real time and began dispatching service crews to make repairs even before the wind had stopped blowing.

Aycock commented, “Previously, we would have had to do a windshield survey, sending crews to ride out the network, report on the damage and evaluate it, and then send people out for repairs. Now, the alarms are integrated with GPS and our fiber records, so we could restore service faster and save ourselves some money.” In addition, the ability to tag orders as storm-related helps the utility obtain reimbursement from FEMA.

- Historical analyses of alarms by type show geographic clusters of persistent issues such as signal

Managers can easily see the take rates, the average revenue per user and the requests for service in any particular neighborhood and can use this information to plan network expansion.

degradation. This enables supervisors to send technicians directly to field cabinets in need of work.

- Outside-plant work in preparation for new service installations can be bundled geographically to reduce the number of truck rolls. Even if two installation work orders are scheduled for different days, the preliminary outside-plant work can be performed on the same day.
- If a customer calls to order service and the customer service rep can see a fiber drop is already installed, the rep can schedule the customer for the next installation date rather than waiting for outside-plant work to be completed. “Before we had this tool,” Aycock said, “we were sending people out to put in conduit when it was already there. Now, we have a management expectation that people will use this tool. ... [Installers] are saving an hour or two a week that they used to spend driving around, looking at stuff that was already done.”
- Field supervisors and customer service supervisors review pending work orders by area to gauge their workload over the coming days. A supervisor who sees a spike in orders may cancel days off, hire contract labor or even reschedule some work orders to avoid overtime. Conversely, if the workload is light, the supervisor may try to move pending installation orders to earlier dates. In either case, these reports help supervisors minimize costs by matching staffing to workload.
- Reports on active customers per hub help managers plan for expansion of field cabinets (if a shelf is 90 percent utilized, the time may be right to add another splitter card) or

consolidate underutilized equipment and reclaim it for use elsewhere.

- Geographic reports on customer disconnects help the NOC staff identify available pigtailed in each hub and locate ONTs for reclamation. Aycock explained, “When we first launched services, we were trying to grow subscriber numbers as fast as we could, so we weren’t focusing on these types of details. We found that we were spending a lot more on infrastructure [than we should have been], so we had a big push to generate lists of unused ONTs, hand the lists out to contractors and bring the ONTs back in. When we realized the vast majority of ONTs were in good condition, we asked, ‘Why bring them back?’” Today, Greenlight stores a few disconnected ONTs centrally, just to have some on hand, but leaves most of them in place to reclaim for new installations in the same neighborhood.
- Simply having all information available in a single location improves operational efficiency. For example, Aycock said, a network designer planning an upgrade or extension to the network saves 60 to 90 minutes by not having to pull information from the GIS, as-built records, spreadsheets and multiple other sources. Similarly, data on fiber distribution strands (which is now being loaded into the system) can automatically be connected with customer data to reveal which fibers are in use, which are being saved for specific purposes and which are available for customers requesting dedicated fibers.
- Field technicians now contact the office after they complete their assigned repairs each day to find out

whether there are any outstanding service orders nearby. “If there’s still work to be done in that area, [the NOC will] work those with the techs before they clear the field,” Aycock said. “It saves money as opposed to keeping one guy working till 10 p.m.”

THE MANAGEMENT PERSPECTIVE

Though most of Aycock’s examples revolved around ways to improve operational efficiency and customer satisfaction, he said Overture GIS also yields important marketing information for management. For example, managers can easily see how much revenue any geographic area generates and how the penetration of various services is trending in each area.

Aycock said, “We can see clear trends in the service footprint of where we get the most bang for the buck. We’re able to look at the characteristics of the neighborhoods where we’re doing well, and it helps us target neighborhoods for planned system expansion.” Integration of census-based information into the Overture database is also helpful for planning purposes.

Customer inquiries can also be tracked by location to help guide expansion decisions and to provide lists of customer leads that will be used once a neighborhood is opened for marketing. Greenlight can also tailor its marketing campaigns according to the take rates in an area – for example, it may saturate a high-take-rate area with yard signs and offer referral credits to customers who sign up their neighbors.

One of the best things about a user-friendly GIS system, Aycock said in conclusion, is that once users gain experience with it, they begin to devise new ways to use it even more effectively. “I’m starting to get a lot more feedback now,” Aycock said. “The users have a lot more expertise and time [with the product] than I’ve got, and they’ve made it work more efficiently and faster.” ❖

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