Telcordia®

case study

Bell Aliant

Focusing on the Customer While Reducing Costs During Massive FTTH Rollout

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Sheldon MacDonald
Bell Aliant

THE CHALLENGE

▶ In 2009, Bell Aliant rolled out fiber-to-the-home (FTTH) to 33,000 homes and businesses in Atlantic Canada. However, the large regional telecommunications provider was just beginning its plans, and in 2010 announced plans to accelerate their investment through an aggressive FTTH rollout — one that would allow a dramatic expansion of its FibreOP™ digital services. Accomplishing this would mean passing 140,000 premises by the end of 2010, and then tripling the build in 2011, passing more than 600,000 premises by the end of 2012.

The company's FibreOP program was initiated as a way to "future-proof" its business, providing new revenue through more broadband services and allowing the provider to continue serving its valued customer base, highly sought by competitors. The accelerated deployment of FTTH, with a total spend of nearly half a billion dollars, was deemed the key to meeting Bell Aliant's strategic goals.

Realizing a Need

Financial realities demanded that the company contain costs as much as possible in all phases of the rollout, which made a wave of new hiring impractical. Reaching 600,000 premises meant designing over 2,000 fiber-serving areas (FSAs), and the traditional design process was proving to be no help in either reducing costs or increasing the speed of the rollout.

The entire process was manual. It involved printing out paper copies of the coverage areas, conducting site surveys to collect field data and perform manual measurements, placing manual designs on top of marked-up paper maps, sending paper copies to the field, and receiving manual redlines back from the field. It took a staff of five approximately two weeks to get field data to the redline stage for validation. It became clear that this approach was not sustainable given the targeted market penetration and timing.

The existing process and systems necessitated doing things manually, and data quality during the rollout explosion was a concern. Build cycles simply needed to be shortened.

Accelerated Build Required Process Innovation

Bell Aliant knew that neither the market nor its competitive future were going to wait, so it looked for design options that would allow it to meet the network challenge it had set for itself. "We realized we had to change the process to meet an accelerated build schedule," explained Sheldon MacDonald, Bell Aliant's Director of Network Strategy, Capital Management and Security. "We had goals in place with clear promises to our customer base. We knew that implementing a new solution would be challenging, but it had to be done."

With proper planning, a rollout with this scale and schedule is manageable, but the volume of repetitive, labor-intensive work can be overwhelming. The company realized that an accelerated FTTH mass market broadband rollout, along with continued improvements in the customer experience, would require OSS/BSS automation — specifically, OSS engineering automation for plan-to-provision. Automation would be a critical component for meeting the business case for FTTH, as the sheer number of engineering resources required for the manual effort was simply not available. Bell Aliant needed a tool that could automate the engineering design, feed other departments with information to avoid manual effort, and provide an accurate geospatial record that would produce benefits for years to come.

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THE TELCORDIA RESPONSE

In discussions with Bell Aliant, Telcordia suggested its unique Plan-to-Provision for Mass Market Broadband solution, featuring Telcordia® Network Engineer with its Design Assistant module. The solution also included services to build design templates specific to Bell Aliant FTTH engineering rules. Design Assistant would allow Bell Aliant to reuse these templates over and over again to automate numerous labor-intensive tasks in the design process. Once rules and models are entered using the Design Assistant configuration tools, the module creates point-and-click wizards for different build-out scenarios, allowing any planner to quickly produce even complex designs that adhere to corporate standards.

Following a well-received value assessment of the solution, a trial was conducted in the pilot cities of Moncton and Saint John, New Brunswick, Canada. A target of 25 percent improvement in workforce productivity across engineering was set as the solution's proof point, along with a discounted payback period (DPP) of less than two years.

Partnering for a Successful Trial

Both Telcordia and Bell Aliant were aware of the difficulties in implementing this new tool, and worked closely to train users and make the adoption of the new solution as smooth as possible. The two companies also partnered to build

customized wizards that matched the provider's requirements. Bell Aliant had previously not used either a geographic information system (GIS) or an automated engineering solution, so the close collaboration proved very useful in articulating requirement definitions.

Bell Aliant had already decided to use an advanced fiber optic cable system with factory-terminated network access points along the length of the cable. While using this fiber technology promised to reduce installation time by more than 50 percent in the distribution segment, it also meant providing accurate measurements for each cable length to the cable supplier, which Design Assistant would have to be configured to supply.

Telcordia and Bell Aliant also worked closely with Esri Canada, which supported the trial. Network Engineer is built on top of Esri ArcGIS® technology, which provides the system for gathering, organizing, sharing, analyzing, and reporting spatial information. Bell Aliant leveraged its relationships with related industries, such as the regional electrical utilities and municipal governments, to gather existing layers of Esri-based GIS information for the test areas. This includes land base information that provides the geospatial location of land parcels and waterways, and civil infrastructure, such as streets and utility rights-of-way. Migration of this and other information into Network Engineer prior to the FTTH design work was part of the successful trial.

THE RESULTS

The Telcordia solution is now successfully in full production. It is being used by engineers in several cities in Atlantic Canada who have designed over 600 FSAs, with more to come.

With the help of Telcordia and its Plan-to-Provision for Mass Market Broadband solution, not only has the cost to pass each home and business been reduced, but the popular triple-play service is becoming available to consumers in a shorter timeframe. In fact, FibreOP was made available to 156,000 additional premises during the first six months of 2011. Reduced labor requirements have decreased costs while increasing design capacity. By accelerating the FSA design time from 120 hours to just 72 hours, the target engineering time reduction of 25 percent has been exceeded, standing at an impressive 32 percent reduction (about six person-days per FSA). Bell Aliant is on target to reach its engineering project DPP of less than two years, an outstanding result.

Bell Aliant uses Network Engineer with Design Assistant to manage the end-to-end process of planning, designing, and building the physical FTTH network and, through the information in its centralized database, also enables the provisioning and quality assurance processes. The provider can also produce reports from the data in Network Engineer to assist with cable forecasts, and the GIS information is being used more and more for marketing and customer service purposes.

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Transforming Plan-to-Provision Processes

Bell Aliant now has a single geospatial OSS supporting its FibreOP outside plant network, eliminating multisystem inefficiencies. The automated design tool has enabled a simpler and more efficient workflow for planning, engineering, and design, with a huge reduction in time for designing FSAs. The solution's GIS capability gives the company a complete, accurate view of network components and customers, with network and service locations linked, and provisioning and customer data tied to network equipment. The solution's rules-driven approach, plus the development and implementation of a related field application, has helped assure data consistency.

"Network Engineer with Design Assistant has really transformed our plan-to-provision processes. Between the automation and the easy availability of accurate network data, everyone can work faster and do their job better," notes MacDonald.

Automation of data sharing has delivered a marked improvement in the availability, quality, and use of data across the enterprise — from engineering to customer qualification to service assurance. And with the Telcordia solution, work can be performed remotely. Since design work is done from the desktop, engineers in Moncton can assist with designs for Halifax. With the manual method, it's logistically difficult to move people to remote locations. Bell Aliant is now leveraging the solution to create a much more flexible work force.

"Bell Aliant is the first service provider in Canada to cover an entire city with fiber-to-the-home technology and bring a 100 percent fiber optic network directly to customers' homes," says MacDonald. "By working with Telcordia, we can now deliver the fastest internet available, the ultimate high definition TV experience, and the best customer service experience."

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